



JPRS Report—

Telecommunications

19980506 014

DTIC QUALITY INSPECTED 3

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL INFORMATION SERVICE
SPRINGFIELD, VA. 22161

DISTRIBUTION STATEMENT A
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Telecommunications

JPRS-TTP-91-004

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ANGOLA

New Telecommunications Projects Announced

*91P40310A Luanda JORNAL DE ANGOLA
in Portuguese 15 May 91 p 3*

[Text] The Angolan Telecommunications Agency, EPTEL, will launch a nationwide program, estimated at \$30 million, comprising a digital telephonic switching center and another for telex and data transmission, as well as a data processing center. According to a company employee, Geraldo Ferreira, who spoke at the opening of

the telecommunications workshop, the project will be financed by the African Development Bank (ADB). Engineer Ferreira added that the digital telephone switchboard will be provided by the Italian firm Alcatel. The furnishing of the telex and data transmission switchboard is contested between Germany's Siemens and France's Sagem, while the data processing center is contested between SIL (an Angolan company which represents IBM computers) and the Zimbabwean company "Real Time." Satellite communications systems, digital telephonic exchanges, solar energy stations, transmission radios, and cable networks were exhibited at the workshop.

THAILAND

Computer Group Gets Satellite Project Approval

*91WT0146A Bangkok BANGKOK POST in English
30 May 91 p 17*

[Text] After months of review, Shinawatra Computer Group finally was given the green light yesterday to undertake the four-billion-baht project to launch Thailand's first commercial satellite.

Approval came from the Scrutiny Committee on Economic Affairs, under the chairmanship of Finance Minister Suthee Singsaneh, and the proposal would be forwarded to Cabinet next Tuesday for mere acknowledgement.

Shinawatra's proposal was the first multi-billion-baht infrastructure project approved by the present government since it assumed office a few months ago.

During its short tenure, the Government had reviewed all multi-billion-baht projects which were approved by the previous administration, but for which contracts had not been signed.

Shinawatra Computer Group executive chairman Police Lieutenant Colonel Dr Thaksin Shinawatra said: "I am glad to have an opportunity to set a new chapter for Thailand's telecommunications history."

Transport and Communications Minister Nukul Prachuabmoh said the committee had given the go-ahead to Shinawatra's proposal after the firm agreed to accept various counter-proposals put forward by the Government, including an eight-year monopoly period after the signing of the agreement to pave the way for future competition.

No other private firm would be permitted by the Government to carry out a similar project during the eight-year "competitor free" period.

Shinawatra earlier had agreed to halve the monopoly period to 15 years of the 30-year concession to operate the satellites, but the committee still considered it too long and wanted it cut only eight years.

Mr Suthee said the Government feared the country might not benefit from the rapidly-developing satellite technology if any private firm was given too long a protection period.

He said Shinawatra Computer Group could still have six years to recover its investment after its first satellite was launched.

About two years were needed to send the first satellite into orbit.

Mr Suthee said the project, when implemented, would enable the country to save foreign currency spent on leasing overseas satellites' transponders.

It also would increase the country's telecommunications network at a much faster pace, he added.

Shinawatra Computer had proposed slightly more than 1,400 million baht in revenue payments to the Government in return for a 30-year concession to operate the system.

Mr Suthee said the Transport and Communications Ministry would jointly work with the firm to draw up the qualifications of the satellites to be used by the firm, each of which must have a minimum of 12 transponders.

He said, however, the Government would reserve the rights for the orbit position approved by an international organisation.

Dr Thaksin said he was relieved a decision had been made and said he did not expect any problems during next week's Cabinet meeting.

Traditionally, all projects approved by the committee were rubber-stamped by Cabinet.

Dr Thaksin said he expected an agreement would be signed with the Government shortly after the project was endorsed by Cabinet next Tuesday.

He also said negotiations with the US-based Hughes Aircraft over the satellite should be concluded this month, while a final decision on the rocket launcher, to be provided either by Aerospatiale of France or Long-march of China, was expected shortly afterward.

Dr Thaksin said about 4,000 million baht would be required to undertake the project, including 2,500 million baht for two satellites.

According to Dr Thaksin, the first satellite should be sent into orbit within 27 months, followed by the second one as backup six months later.

Dr Thaksin said the satellite project would be undertaken by the group's flagship company, Shinawatra Computer Co, and the company was considering several measures to raise funds to carry out the project.

He said he would soon ask His Majesty the King to name Thailand's first satellite "in order to allow each and every Thai to be proud of it."

Dr Thaksin expected the first satellite to be fully occupied 1 1/2 years after its launch.

This, he said, was based on the 3 1/2 transponders now leased by several government agencies and the private sector from numerous overseas satellites, plus internal demands from the group's various affiliate companies, including the International Broadcasting Corp, which operated cable TV and Advance Info Services, operator of the 900 MHz cellular mobile phones.

REGIONAL AFFAIRS

Survey of East European Telecommunications
91WT0141A Berlin WOCHENBERICHT-DIW
in German 23 May 91 pp 287-92

[Report No. 21 of the German Institute for Economic Research, dated 7 March 1991: "Telecommunications in Eastern Europe"]

[Text]

Far Behind in Capacity, Quality, and Technology

Berlin—Capital investment in the infrastructure of the telecommunications sector also was widely neglected in Eastern Europe¹ in the past decades. The states hardly even tried to bring their communications systems up to the levels of the Western neighbors. In comparison with Western Europe, the number of phone connections per 100 residents is very low. In the six East European countries, it is only a fourth of the figure in the 12 European Community countries, and 20 percent of the figure for the EFTA [European Free Trade Association] countries. Poland, Hungary, and Romania are at the bottom of the scale, Yugoslavia, Bulgaria, and Czechoslovakia (the CSFR) approach Portugal and Ireland, which trail the EC (17 and 23 phone connections per 100 residents, respectively).

Table 1
Telephone Network Structure in East and West Europe (1988/89)

Country	Population (in Millions)	Subscriber Phone Lines (in Millions)	Phone Lines per 100 Residents	Waiting List (in Thousands)	Waiting List per 100 Residents	Percentage With Direct Dial Available	Public Phones (in Thousands)	Telex Connections (in Thousands)
Hungary	10.6	0.8	7.5	995 (85)	5.4	89	na	13
Poland	38.0	3.0	7.9	2,000	5.2	91.5 (87)	25.6	33.5
Yugoslavia	23.4	3.2	13.6	142	0.6	99.7 (86)	7.9	13 (86)
Bulgaria	8.9	1.5	17.0	168	7.9	67.5	9.7	6.0 (83)
CSFR	15.6	2.1	13.6	372	2.4	na	na	na
Romania	23.0	2.6	10.4	800	3.5	na	na	na
Total	120.0	13.2	12.0					
European Community (1987)	320.0	122.7	37.0					
European Free Trade Association [EFTA] (1987)	32.0	16.3	51.0					

Sources: MDIS, 1990, World Bank, internal estimates

At the same time, it is difficult to estimate the size of the capacity shortfall. It remains unclear how reliable the current waiting lists are. These show that in some countries, the pent up demand is almost as great as the entire existing available infrastructure. In any case, the waiting lists only show the demand from the business sector, government and the party, in other words, the institutions which would normally have easy access to telephones.

Before the war, the East European countries (primarily the CSFR, Hungary, and the former GDR) were among the most highly developed economies, with an excellent communications network and strong phone equipment industry. However, the wartime destruction and the neglect of the infrastructure have led to today's shortcomings. The growth rates of two to three percent in the phone sector were very low.² As a result, not only were there long waiting lists, but the technology aged and the

level of service³ dropped with increasing speed. System expansion was concentrated primarily in the large cities. In the rural areas, the lack of [phone service] is catastrophic.⁴ In addition, there are still many places where there is no direct dialing—particularly in rural areas.⁵ Modern phone services such as data transmission are almost completely nonexistent, and so, along with the voice network, telex became the most important communication medium.

The quality of the telephone service is completely inadequate. This is because of the overloading of the network, above all in long distance and international connections. The majority of calls placed do not get through, and there is often less than a 20 percent chance during business hours that an international call will get through on the first try. For this reason, call repetitions are the norm. Those repetitions tie up the network and reduce revenues. The elimination of interruptions takes too

long, and, because of poor insulation, the line connections often have inadequate sound quality, with conversations being interrupted by noise in the network or wrong connections.

The technological gap between the East European telephone networks and the Western ones has become greater in the 1980's. The Western economies and even some of the developing countries have modernized their networks and digitalized them, and, as a rule, have a quite modern infrastructure available. This is not the case in Eastern Europe. There are hardly any digital exchanges, or modern data transmission possibilities, large-capacity fiberglass networks, or modern multifunction telephones. Even the degree of automation (direct-dial connections) is to some extent still quite limited. The reasons for this backwardness are:

- The telephone agencies were primarily developed for the state government apparatus and industry, whereas private households were ignored.
- The telephone network never was a high priority in the capital investment budgets. For this reason, the telephone agencies never had the necessary spare capital for replacement and expansion of the systems.
- The telephone equipment sector was relatively self-sufficient and protected from competition. In addition, there were technological restrictions in conjunction with COCOM [Coordinating Committee on Export Controls]. For these reasons, the capital cost per connection has been considerably higher than in the West.
- With the rapid technological developments in this field and the fall in unit prices in the West, the gap has grown even greater.

Changed Priorities for the Telecommunications Sector

The changed political situation and the attempt to open the Eastern economies to the West has changed priorities for this sector. The number of companies is growing as a result of the restructuring and reorganization of the economy, and the demand for economical (telecommunications) connections is growing, too. More and more private households want access to the telephone network. At the same time, the significance of foreign trade is growing. Exports to the West are to be increased, for which direct investments from the West, both in capital and technology, are indispensable. However, all of this necessitates a functional telecommunications infrastructure.

In addition, there are changed institutional structures. The new possible uses of telecommunications do not only bring along additional demand for service, but also demand a considerably more intricate institutional foundation in the economy. This affects the field of technical application as well as the regulatory arena in which telecommunications must be seen today. In conjunction with the growing opening up of the communications sector in the West, this subject is also being discussed in

Eastern Europe. Because of the disappointment in centrally planned economies, there is a greater tendency to seek a strong competitive orientation. In addition, liberalization of the telecommunications sector also creates possibilities for the participation of foreign lenders and the technology transfer associated with it.

Short-Term Solutions

In the short term, the capacity of the network cannot be increased. The (phone company) managements are concentrating on maintaining the networks to some extent and in some subsections replacing or rejuvenating equipment long since written off. Only after that can there be any thought of capacity increases. For the short term, though, there are two possibilities for improved management of the existing shortages:

- A realistic pricing policy which partially reduces access to the network (including rationing).
- A clear priority for the elimination of bottlenecks in the network.

Necessary Rate Reform

The current phone service rates hardly have any connection to costs or shortage prices. Phone service rates are even more of a political issue than in the West. In some countries, there was no fee at all for a phone connection in the first decade after the war. The current rates are generally far too low, particularly for local and nearby service. As a result, the earnings per connecting unit are low. In order to solve the deferred financial problems and at the same time protect the system from collapse, rate reform is unavoidable. In most countries, the rates must be sharply increased. With a time-variable reduced rate structure for nonpeak periods, the impact of the rate increases can be reduced.⁶

Because of the financial problems in expanding the networks, the phone services must at the same time greatly increase the cost of new connections. In Hungary, "phone bonds" have been introduced which are supposed to ultimately provide the financing for the infrastructure. These bonds, which can reach up to 2,000 German marks [DM] per connection, will then indeed earn interest,⁷ but this will also lead to a reduction in the demand for connections to the phone network. The main connections would then be to some extent multiplied by the subscribers themselves, because the precious commodity of phone connections possesses an enormous priority above all in the restructuring of the economy.

Removing Bottlenecks in the Network

The first steps to be taken toward eliminating the existing capacity problems must be targeted towards improving the level of service. It also generates more revenue for the existing system. An increased investment in quality control, telecommunications traffic monitoring, and call optimization routing could bring relatively high rewards through handling additional phone calls. Along with that, there must be attempts to achieve

rapid increases in the degree of automation in long distance and international calls. Experts believe that with relatively little capital investment in this area, a very great increase can be attained.

Medium-Term Solutions

Improved Administrative Efficiency

In Eastern Europe, the phone companies did not consider themselves as service organizations prepared to provide a functional telephone network with favorable working conditions. They were little interested in making better use of capacity, reducing costs and reacting to customer wishes. Worker productivity (measured in phone lines per employee) is low in comparison with that in Western countries. Call-traffic flow optimization was seldom pursued, rates were not seen as rationing or financing instruments, modern management methods were lacking, etc. Now, however, in the course of reorganizing the economy, the phone companies are also being reorganized in cooperation with Western consulting firms. They are being separated from the government structure as private organizations. This provides stronger internal responsibility and a clear business mission. In addition, the ability for foreign capital participation is created through partial privatization and joint ventures. The role of the post office and telephone administrations will become one of a regulatory and review authority. Hungary and Poland are already relatively far along in this process, followed by the CSFR [Czech and Slovak Federal Republic].

Overlay Networks

The aged networks and the low level of service are inadequate for a comprehensive modern business (phone) traffic, so many managements are switching over to the separate communications networks ("overlay networks") business sector. In some cases, very quick implementation measures such as the installation of satellite connections for important foreign business connections (V-Sat technology) are grabbed. With these connections to business centers on "telephone islands," all the modern telecommunications services can be offered.

In the medium term, though, all business centers should be reached. This is most easily accomplished via a digital fiber-optic overlay network, which is already being installed in Poland and Hungary to improve the long distance level. This strategy is also being pursued by most of the other countries.

The third possibility is the accelerated application of cellular mobile phone service, which was hardly ever used in the private sector. Modern cellular phone service began in 1990 in Hungary, in the Budapest area, and in Yugoslavia in the Zagreb region. Ljubljana, Prague, Brno, Bratislava, and Warsaw will follow this year (see Table 2). Within the next two to three years, these networks are supposed to be extended to the most important business centers of each of the countries. These also have the character of an overlay network with priority for business customers.⁸

Table 2
Cellular Mobile Phone Projects in Eastern Europe

Country	System	Vendor	Service Area	Date of Service
Hungary	NMT 450 Mhz	MTV (51 percent Hungarian, 49 percent U.S. West)	Budapest	October 1990
Hungary	890-898 Mhz	HTC (50 percent Hungarian, 50 percent Contel Cellular)	Budapest	Postponed due to license problems
Yugoslavia	NMT 410 Mhz	Croatian PTT	Zagreb	August 1990
Yugoslavia	NMT 410 Mhz	Slovenia PTT	Ljubljana	1991
CSFR	NMT 450 Mhz	MPT (51 percent Czech, 49 percent U.S. West/Bell Atlantic)	Prague, Brno, Bratislava	1991
Poland	NMT 450 Mhz	Still open	Warsaw	1991/92

Sources: Pyramid Research, 1991; internal estimates

This kind of policy, of a two-tier net structure, does not only provide quick relief from the worst bottlenecks, but beyond this enables (phone service) rate distinction. The relatively price-inelastic business customers could then make a greater contribution to financing the infrastructure. The general rate reform mentioned earlier cannot be so blatant. At the same time, the business customer gains access to a high-quality network and reduces the load on the existing network. The unequal treatment of customers caused by rate differentiation, even the

infringement of a rate unit in a single area, is a necessary price which the telephone agencies appear prepared to pay.

Long-Term, Major Net Expansion

A solution designed for the long term is not possible without a comprehensive network expansion. For that, however, enormous capital investments are necessary. As an example, if the goal of the most important East

European countries were to attain by the year 2000 the level of service of Spain in 1988 (about 27 phone lines per 100 residents), the required capital improvement costs would be overwhelming (see Table 3). If the estimated cost per subscriber phone line is about \$2,000, then about \$3.5 billion would be required annually, in

current dollars, in order to close this capacity gap in the six countries. Because of the backwardness of Poland and its relative large size, the required capital investment is especially significant, but this is also the case in Romania and Yugoslavia.

Table 3
Capital Needs To Increase Number of Phone Lines
per 100 Residents Between 1989 and 2000
(Up to 27 Lines per 100 Residents)

Country	Subscriber Phone Lines (in Millions)		Growth Rate (Percent per Year)	Total Cost (in Billion Dollars)	Annual Cost (in Million Dollars)
	(1988/89)	(2000)			
Bulgaria	1.5	2.4	4.5	1.8	169
CSFR	2.1	4.2	6.5	4.2	382
Hungary	0.8	2.9	12.3	4.1	375
Poland	3.0	10.2	11.8	14.4	1,310
Romania	2.6	6.2	8.2	7.2	651
Yugoslavia	3.2	6.3	6.4	6.2	567
Total	13.2	32.2		38.0	3,457

Sources: ITU; internal estimates

These capital investments must be viewed in relationship to the income and available savings, because in most East European countries, the gross national income is only between \$2,000 and \$3,000 per person. Without increased foreign assistance, such a goal is clearly not attainable.

The Hungarian Example

The capital investment problem can be portrayed relatively favorably for Hungary. The Hungarian phone company just completed its 10-Year Program.⁹ According to it, 28 subscriber phone lines per 100 residents should be in place by the Year 2000.¹⁰ Between 2.5 and three million new phone lines are to be installed, and a third of the existing network of 0.8 million phone lines should be replaced. This represents a capital cost of \$4.5 billion. The Hungarian Telephone Company (HTC) hopes to borrow 30 percent of this sum on the international lending market, and the rest would have to come from the suppliers and the state. Simultaneously, an overlay network is to be constructed in an emergency program over the next three years. This is to reduce the overloading of the long-distance network and provide new subscriber lines of a higher quality for the business customers. This three year program requires an additional capital investment of at least \$1 billion, of which at least a third is to be financed by the World Bank.

What Role Will Domestic Phone Manufacturers Play?

The phone equipment costs in Eastern Europe are sometimes considerably higher than in the West, because of low productivity and technological backwardness. The lack of technical advances can be traced back on one side

to the COCOM restrictions, and on the other side to the little international specialization and the lack of competitive pressure in Eastern Europe. This increases the capital costs and slows infrastructure expansion because of limited capital. In the meantime, the COCOM restrictions have been substantially reduced. Digital exchange centers from the generation before 1984 can now be imported, as well as modern branch exchanges and fiber optic cable. There is still difficulty with the new ISDN (Integrated Systems Data Networks) technology, though, so the technological gap will remain specifically in the modern business applications.¹¹

Because of the lack of hard currency, the East European countries are not in the position to make capital investments at the levels cited here. Domestic telecommunications industry must also make important contributions to the effort to fill the gaps in capacity. This is, however, a difficult problem for the telecommunications industry which is just now going through necessary reorganization. The equipment industries in the former GDR, as well as those in Bulgaria and the CSFR, were important exporters within the CEMA countries. The collapse of the traditional Eastern markets and the attempt to change over equipment production to Western technology both lead the companies into a doubtful situation which they cannot overcome without outside help. Without Western help, it is not possible to make the switch to the new technology with the necessary technology transfer.

The medium-term goal must be, therefore, to maintain the market share of the domestic equipment industry in the individual countries. Imports currently hold 20 percent of the phone equipment in Hungary and Poland.

This could climb to 40 percent briefly during the course of the emergency program. After that, however, the domestic equipment industry must become increasingly active in production, particularly with the background of a strongly growing market volume. Over the long term, a new arrangement could certainly develop in the interregional division of labor within the old CEMA economic zone.

The estimates by Western experts¹² show how difficult it will be to achieve technical conformance. Industry there is hobbling along, five to 15 years behind in technological development. This is one to three equipment generations. The area of transmission cable is an exception. This gap must be reduced through the substantial reduction of COCOM restrictions, also through the use of joint ventures in production.¹³ Ultimately, the expansion of the communications network in Eastern Europe should be tied to an industrial policy for the equipment sector, in order to establish an enduring branch of the economy.

Institutional Changes

The restructuring in Eastern Europe has also brought demands for deregulation in the telecommunications sector. To some extent, people are prepared to go considerably further than in most of the West European countries, to permit private network operators. This is true above all in rural areas (for example, in Poland and Hungary). In cellular mobile communications, too, private vendors are being allowed, sometimes even in competition with the (state) phone company (Table 2). Such a policy of open markets in conjunction with joint ventures from the West will enable the rapid transfer of technology and shoves a portion of the enormous financial problem onto the private network operators. The state phone companies can then concentrate on the lucrative international market. Hungary's new telecommunications law calls for, for example, the creation of local telephone licenses, partially in conjunction with city utilities or communal facilities. At the same time, one of the two cellular telephone licenses were given to a Western consortium. In Poland and the CSFR, licenses are still pending for cellular phone service, but here, too, Western firms are leading in representation. At the same time, there are proposals for establishing international long-distance networks with financial and advisoray assistance from the West, for incorporation by the railway corporations, for example.

This partial market opening, particularly in the cellular phone business but also with special phone networks in conjunction with the European railroads, shows the new phone companies expanded institutional possibilities. They can gain experience in the joint venture field and test different participation and lending models in competition with private vendors. On this basis, they will be armed for more radical steps, in the context of a partial privatization, for example, or for an increased international competition which will come their way.

This partial conversion to private investment requires a comprehensive regulatory framework on the part of the responsible public officials. This is not easy to provide. There must be clear advantage for the private lenders, but at the same time the appeal of monopoly must be checked. The various networks must be tied together with each other and compatible. The domestic industry must be able to participate. These questions have not yet been resolved in most countries yet, so that only a portion of the regulatory framework has been in place up until now. The danger is that in the attempt to lock in foreign capital and know how, the companies will be given too much freedom. On the other hand, vague profit potential leads to increased uncertainty for the investors, so that the necessary private capital will stay away, and the closing of the gaps in phone service capacity will be postponed for yet a long time.

Footnotes

1. The USSR is excluded from this consideration. See *Telecommunications in the USSR*, MDIS, Chichester, 1990.
2. There were attempts in the 1970's in a few countries to expand the telephone infrastructure more quickly. Bulgaria tripled the number of main connections between 1973 and 1985, while in Hungary and Poland the number was only doubled.
3. Measurement is based on the probability of blocked lines, the number of disturbances and length of service interruption.
4. In Poland, 7,500 villages have no telephone. Only 45 percent of the rural phones have direct-dial capability (MDIS, 1990); in Hungary, Budapest has 20 percent of the population and 50 percent of the telephones.
5. In Hungary's 2,226 local exchanges, 86 percent of the connections are still made by hand; in Romania, about 10 percent of the connections have the ability to direct-dial international calls. This figure is about 30 percent in Bulgaria. In comparison, Hungary and the CSFR have more modern facilities.
6. Minimum service plans, similar to the "Lifeline" package in the United States, could provide for a socially bearable adjustment in rate reform.
7. In Yugoslavia, too, the hookup fees are at this level, varying from republic to republic, but they are not considered bonds but rather as cost-oriented fees.
8. In Poland, an additional separate business-subscriber network for approximately 4,000 customers was established. However, this cannot be connected with the general dial-phone network.
9. On this point, refer to Juergen Mueller and Emilia Nyevrikel, *Closing the Capacity and Technology Gap in East European Telecommunications*, TPRC, 1990, reproduced as a manuscript.

10. This approximately corresponds to the density of subscriber phone lines in Spain. The plan calls for 39 phone lines per 100 residents, so that approximately every second household would be served.

11. The COCOM restrictions were loosened on July 1, 1990. The treatment of the individual countries still varies. As before, Hungary is still not permitted to import PC workstations for CAD-CAM applications, local area networks are limited to 20 megabits per second (Mbps), digital satellite exchanges are restricted to 512 ports, etc. Upon request there are exceptions, especially for data networks delivered as a package, or exchange systems with signal indicator channels CCITT No. 7, etc. (refer to MDIS, *Telecommunications in Hungary*, 1990).

12. Refer to T. Nulty and N. Holcer, "Issues and Possible Responses in East European Telecommunications Development," working paper of the World Bank, 1990.

13. In the meantime, most East European concerns have formed corresponding joint ventures or reached licensing agreements with Western partners.

HUNGARY

Mobile Telephone Frequency Controversy Reviewed

Chronology of Events

91WS0357X Budapest COMPUTERWORLD/
SZAMITASTECHNIKA in Hungarian 28 Mar 91
pp 13-17

[Unattributed article: "Frequented Frequencies or the Canossa of Hungaria-Elecom"]

[Text] Hungary needs a mobile radio telephone network for reasons beyond the lack of a sufficient number of installed lines. A catch-up program for this has been started with much energy, indeed with sufficient capital. Here also, of course, there will be a goodly number of managers "living" in their cars, from which they can telephone or fax, but it is not for them alone that there should be a struggle, before and behind the scenes, for the frequencies. Radio telephone—with a suitable infrastructural background and, primarily, with its related services—is also a matter vital to landline telephony.

Information provided here reveals that telephone deals were not "made in heaven." To begin, note that originally only Hungaria-Telecom made a bid for a frequency range which does correspond to the American frequency distribution but not to the Western European one. By building this radio telephone network, Hungary would have gotten somewhat less close to Western Europe.

Public radio telephone service began in Budapest on 15 October of last year—operated by Westel, that is by Magyar Radiotelefon Ltd. By the end of the year 3,000 subscribers had been connected and in the beginning of

1991 the network was expanded by another 3,000 subscribers. Since the capacity of the 450 megahertz band is limited (it is suitable for serving a total of about 50,000 stations) further development will be in the 900 band. By 1993 we could put 40,000 stations into operation on the 400 band. If Hungaria-Telecom had not gone to court, it could be doing business in this range already.

The Beginning—the Summer of 1989

Coopinvest, the BRG [Budapest Radio Technology Factory] and the Technika Foreign Trade Enterprise signed a cooperation agreement in the summer of 1989 for the purpose of creating a radio telephone network. On 22 May 1989 Coopinvest was informed that the Radio Electronics Headquarters of the Ministry of Defense had no objection to use of the frequency band designated for the Hungarian People's Army (a band of 28 megahertz extent in the 800 range). On the same day Coopinvest asked Minister Andras Derzsi (after reporting on the situation and the intent) for a permit exempting it from the Postal Law: To establish a closed stock company to create, operate, and further develop a national network; for the services of the network; for independent city and regional television broadcasting; and to provide telecommunications services on a leased satellite channel.

As a result of the request the Communications Main Department of the Transportation and Communications Ministry (Kohem) issued a preliminary use permit "not authorizing the beginning of concrete operations" for a frequency range covering a total of 58 megahertz. The issuing authority called attention to the conditional character deriving from the obligation for international coordination and provided information on the requirements pertinent to the preliminary plan to be submitted for coordination and on what had to be done in connection with tying in to the network of the Hungarian Post Office.

At a press conference on 9 June 1989 Coopinvest reported that "the Australian Bond Corporation Holdings Limited and Coopinvest had signed a preliminary contract for creation of a national cellular radio telephone system."

In possession of the preliminary permit Coopinvest informed the president of the Hungarian Post Office that "a stock company called Bond-Hungaria-Telecom was being formed to establish a radio telephone network" (13 June 1989).

An answer was received eight days later; it did not address the connection proposal—the Hungarian Post Office postponed this to a good bit later, on 3 October, citing the preparatory activities and the reorganizations then under way—but it did state that the Frequency Management Office, and the Kohem Communications Main Department were responsible for frequency harmonization, and that a description of the general conditions for tying in to the postal network had been delivered earlier.

So on this day the Kohem Communications Main Department gave Coopinvest a permit for activities "to be provided via a cellular radio telephone network to be realized at its own expense."

On 3 July Coopinvest asked the OMFB [National Technical Development Committee] for a 50 million forint contribution. As justification it noted, among other things, that:

- The total for an investment serving 50,000 subscribers would be 80-100 million dollars, which would be provided in its entirety by the Bond firm.
- The system would be created by a stock company the formation of which would take place with the agreement of the appropriate Hungarian Government organs.
- Combined network development activity would begin shortly, as a result of which the Hungarian participants would gain access to know-how.

The members of Hungaria-Telecom Ltd, formed with 1 million forints in base capital, were: Coopinvest, 10 percent; Technika, 10 percent; BRG, 10 percent; Centroinvest, 50 percent; Laszlo Kopolyi, 10 percent; and Zsolt Harsanyi, 10 percent.

In its preliminary plan Coopinvest described a system suitable for serving 150,000 subscribers. An accompanying letter stated that the system would be established with foreign capital, that an obligation to reinvest the expected profit would be undertaken, and that they were ready to join in the development of the national telephone network as well.

From the beginning there were critics of the plan in the ministry. Imre Bolcskei, deputy chief of the Communications Main Department, giving his opinion of the preliminary plan, noted that the organizational cooperation of the system and the postal network was still not clear, that the domestic and international agreements needed in the affected bands were still lacking, and that a position could be taken after the technical content was critiqued by the requested neutral forum. Gyula Partos, a ministry main department chief, noted that the proposal might have a good chance in the competition which the ministry would have to announce as soon as possible in the area of mobile telephony. At the same time there was an opinion in the ministry that building the system would lead to a monopoly situation, which spoke against adoption of the proposal.

At the request of the Kohem the Expert Committee of the OMFB debated the preliminary plan on 1 November 1989. At the meeting Zsolt Harsanyi, business director of Hungaria-Telecom, said that his firm was not trying to create a monopoly situation. According to the minutes of the meeting "no opinion was expressed which would have opposed the submitted project. The initiative represents progress in the interest of deregulation and the introduction of new technology."

The next day the minister received Zsolt Harsanyi, who reported on the business policy ideas of his firm. According to him by contributing to the development of the telephone network as a whole Hungaria-Telecom would like to "provide the minister and the government a business and political success which would win the ministry respect in a multiparty parliamentary democracy."

Shortly thereafter the ministry announced that in the interest of an accelerated development of domestic telecommunications it had given preliminary approval for a radio telephone system to be financed by Hungaria-Telecom, that a number of other bids had been received as well, thus it was obliged to propose a competition, and that the factors to be considered were being worked out. This showed that Telecom too was obliged to submit tenders.

Hungaria-Telecom took cognizance of all this, and then the ministry issued for it a permit pertaining to a system with a 50,000 subscriber capacity. An additional proviso guaranteed that having met its responsibilities Hungaria-Telecom would not be in a disadvantageous situation later vis-a-vis other organizations.

Is The Road Clear?

On 15 November Hungaria-Telecom requested the issuing of a frequency designation resolution for use of 890-898 and 935-943 megahertz, attaching the preliminary permits of the ministries of defense and internal affairs. Nine days later it submitted to the minister its expanded proposal for cooperation in the telecommunications development program according to which Hungaria-Telecom "as one of the representatives of the Hungarian state" would participate in all Budapest telephone developments.

A month later the ministry, which had started international harmonization in connection with use of the 900 frequency band, received negative letters from its own experts. The internal letters pointed out, on the one hand, that in order to judge proposals pertaining to development of telecommunications networks, it would be necessary to work out a telecommunications development policy and, on the other hand, that the Magyar Radiotelefon Company could probably satisfy the needs in the 450 megahertz range, that the role of the 900 megahertz band was at most a market building one.

So the answer was that the "clear road" was a deadend. The Kohem announced that it could not agree to the full or even partial use of a frequency band of 58 megahertz extent.

The basis for the decision was that the international harmonization could drag on until the end of 1990. Then a frequency distribution plan could be prepared, and this could be followed by a competition proposal. The Frequency Management Independent Department also

raised professional objections; it noted that the preliminary plan did not describe the concrete equipment and system, thus the plan could not be correct.

In the wake of the rejection, Hungaria-Telecom turned to the minister (21 December 1989) noting that HT had been working right along on the basis of the permits of 7 and 21 June, that it had submitted its preliminary plan on time, a plan which the OMFB jury "approved for realization," that the 2 November agreement had listed the conditions for issuing a permit pertaining to a radio telephone system, that the HT had accepted these and that it had signed a joint venture contract with the Bond CHL firm which could go into effect only if the HT got a final frequency permit by 1 January 1990.

On 4 January, not having received an answer, Hungaria-Telecom submitted an appeal to the minister. Its arguments were that the OMFB jury had approved the preliminary plan, that following this it had adhered to all the points of the agreement made with the ministry, or would undertake them as conditions for realization, that due to the drawn out international harmonization one could start with a Budapest regional permit, that a competition was not justified technically because the requested band width could bear only one venture, and it would mean time lost too, that the preliminary plan had been prepared by recognized experts whose responsibility the enterprise would vouch for, that the work was being done on the basis of conversations the minister had had with the foreign partners, and that the participation of the Hungarian state in the joint venture had been assured.

In the Meantime (or Marking Time)

The responsible main department of the ministry prepared a report in which it analyzed the antecedents, noted the contradictory legal situation which existed when the preliminary permit was issued, and the illegal nature of its issuance, and noted that the firm registration of Hungaria-Telecom might be illegal as well (if it contained activities belonging at that time in the sphere of a state monopoly). The report stated that when the preliminary permit was issued the intention of the ministry was to encourage rather than reject a constructive risk venture serving the public interest.

At the same time it stated that Hungaria-Telecom had failed to meet a number of prescribed conditions. It recommended (among other things) a clarification of the circumstances of the firm's registration, a definition as soon as possible of the concession conditions, a quick decision pertaining to frequency use, the publication of a competition and modification or withdrawal of the preliminary permit.

On 25 January deputy minister Bela Doros also summarized in a report for the minister the essential aspects of the situation. In his judgment the authorization, in accordance with what had gone before, of the activities of Hungaria-Telecom would seriously violate the interests of the country, would limit even in general the

possibilities of competition and the giving of concessions. He pointed to the errors committed by the ministry which were the basis for the belief in the good faith of Hungaria-Telecom, and he recommended several compromise solutions.

Not much later (on 13 February) Hungaria-Telecom requested the personal intervention of Prime Minister Miklos Nemeth. It described the antecedents, said that it had satisfied every condition imposed upon it, that on the basis of this it had signed an agreement with the Kohem and had then signed a joint venture contract. It called attention to the Hungarian Post Office-U.S. West agreement, which had not involved competition, and to the fact that the Hungarian Post Office had shunned the bid of Hungaria-Telecom. It noted that the joint venture contract prescribed for Hungaria-Telecom the winning of a frequency designation resolution for 600 channels by 31 January 1990, and that this time limit had been extended to 25 February.

At the request of the joint venture (19 February 1990) deputy minister of justice Tamas Sarkozy took a position in three questions (9 March):

- The HT justly requests a final frequency designation resolution.
- The Kohem is justified in requiring a competition, but the HT is not obliged to participate.
- If the state organ breaks the agreement then action must be taken according to civil law.

On 22 February minister Andras Derzsi threw out the proposal of his deputy (to nullify the permit which violated the regulations and to institute new proceedings). The reasons for his decision were: the urgent need for a mobile radio telephone service; the dilatory activity of the Hungarian Post Office in this area, without result and consuming resources; the advantages of the Hungaria-Telecom proposal; and the existence of the Hungarian Post Office-U.S. West joint venture (Magyar Radiotelefon Ltd.) which thus creates a competitive situation.

The minister requested the publication of a competition within 15 days, bringing in outside experts. And he started an investigation to clarify the situation of the work of the Hungarian Post Office in connection with cooperation (tenders, etc.) and the lack of results.

On 6 March the Communications Main Department compiled the draft of an answer to be given—a rejection—to the appeal of Hungaria-Telecom. This called attention to the satisfaction of legal conditions and to making up the deficiencies established and held out the prospect of the invalidation of the preliminary permit as of 31 March.

Eight days later deputy minister Doros informed the minister that the Kohem Technical Development Main Department had completed the ordered investigation; it

had prepared for nullification of the illegal permit and for publication of the competition.

In the meantime the Ministry of Industry took cognizance of the fact that the activity sphere of the BRG had been expanded by "4211—postal and telecommunications" activity and the Ministry of Defense had issued for the Kohem a position concerning the use of frequency bands and a schedule whereby they could be freed (13 and 14 March respectively).

Exchanging Notes in the Doorway

Since the minister had rejected the demand of Endre Csernak, chief of the Communications Main Department, that he receive in writing an instruction to withdraw the illegal permit and repudiate the November permit the secretary to the deputy minister forwarded such an instruction to the chief of the main department who (contrary to his own position) informed the director general of Hungaria-Telecom of the decision as a step carried out within the discretionary sphere of the minister (26 March 1990). In his letter he stated that "the company does not have a frequency use permit"; its composition does not correspond to the legal requirements; and it has no agreement with an organization responsible for the national network concerning the technical and economic conditions for tying in to the national network. Thus the activity permit has lost its validity, but Hungaria-Telecom could try its mettle in the coming new competition proceedings.

The appeal of Hungaria-Telecom reached the minister dated as of 30 March. According to the appeal the original permit was a final one since "it was interdependent with creation of a radio telephone network and with offering a service"; the HT had met the conditions of the preliminary frequency use permit and had kept to the agreement made with the Kohem; the capital share of the BRG meets the legal requirements; technical harmonization is under way and finalization of the frequency permit is needed for the agreement.

So Hungaria-Telecom requested a final frequency designation resolution, first for an extent of 26 and then for an additional 14 megahertz, and obliged itself to establish in these frequencies more than 50,000 stations only on the basis of a separate permit. It took cognizance of the requirement for international harmonization, but requested the permit for unaffected internal regions. Citing its good faith proceedings and its significant investments, it noted that "the foreign partner has the permits and documents which support the utility of the investment." Because of the weight of the legal and material consequences of rejection it requested a favorable decision out of sequence.

In the meantime, on instructions from the minister, deputy minister Bela Doros was conducting, at the end of March, discussions with the leaders of Hungaria-Telecom. He reported that the ministry was ready to provide 250 channels (6.25 megahertz) in the frequency band (800) to be released by the Ministry of Defense.

Hungaria-Telecom rejected this because Motorola, the delivering firm, does not have standard equipment in the range offered.

Then Bela Doros compiled, on 2 April, for the minister, a draft of the decision (with force of law) to be given to the appeal. Among other things this pointed to the errors committed by the ministry and to the fact that a recognition of these made necessary the resolution of 26 March. It also rejected the demand of Hungaria-Telecom for reparations, since the cause of the possible expenses was the risk taken by the joint venture.

On 6 April he reported to the minister that publication of the competition would have to wait on the result of the international harmonization. He reported on the messages reaching him which threatened court action and scandal, threats which he considered groundless. On this day also the minister received a translation of a letter from the respected firm Tricapital Ltd., with headquarters in England, which held out the prospect of punitive counteractions:

- The Bond Corporation (from which Contel Cellular was taking over the rights) would sue the Hungarian Government.
- The trial would alarm investors, delay communications developments, and cast light on the advantage received by U.S. West without competition.

J.S. Nounou put the suit value in the neighborhood of 100 million dollars.

On 10 April (without having received an answer to the appeal and referring to the events of the preceding days) Hungaria-Telecom sent two letters to the minister. The one informed him that the firm would withdraw its appeals if the ministry would issue a final designation resolution for operation of radio telephones in the 890-898 and 935-943 megahertz ranges; would "guarantee operation" in the 840-845 and 885-890 megahertz ranges after they were freed; and would issue a certificate for service activity. In this event it was ready to forget everything which had gone before. In the other letter it took cognizance of the rejecting decision of the ministry and withdrew its appeals (unconditionally). In regard to the "antecedents" it asked to be issued frequencies sufficient for a 50,000 subscriber national analog radio telephone system and service rights in accordance with the legal conditions.

Endgame

On 12 April the minister signed two draft letters with almost identical text. In these he summarized the essence of the thinking of the ministry. In one he designated for Magyar Radiotelefon Ltd. the 450 megahertz range and in the other he designated for Hungaria-Telecom the 890-898 and 935-943 megahertz ranges, for radio telephone system purposes. The formulation of the requirements were essentially identical for the two firms; he gave to the Frequency Management Institute the right of

defining the detailed conditions pertaining to use of the designated frequencies. In the two letters the minister called on the two undertakings to request a concession, and he designated the conditions for granting a service concession as follows: The Enterprise Court decides whether the composition and activity of the company correspond to the laws; a preliminary technical, financing and service plan pertaining to the system is prepared; and the foreign financer shows suitable bank guarantees.

The minister referred to the unclosed nature of the regulation of the concession authorization and listed a few essential conditions to be expected. He noted that "fees and securities must be paid for the concession, the sum of which and when due will be determined in the concession—in agreement with the National Price Office."

Referring to the two draft letters he told his deputy that a hard conditions system ensuring a competitive situation had been prepared, and he requested immediate action to issue the frequency designation resolutions, with an effective date of 13 April.

On the 13th deputy minister Bela Doros reported that he could not carry out the instructions; in his opinion a frequency designation resolution was possible only after the issuing of a concession permit and the meeting of other preconditions (representing an expansion of the sphere of competition), probably after 30 June 1990. He pointed out that providing the 890-895 megahertz frequency range could be enough for Hungaria-Telecom for a system built for 50,000 subscribers.

The deputy minister stated that a decision must be made now primarily in the question of connection to the digital panEuropean system (earlier the conditions for this decision were lacking), and that a competition could be announced. So he did not recommend that the minister's two letters should be sent out.

On 17 April Andras Derzsi did send to the directors of Hungaria-Telecom Ltd. and Magyar Radiotelpon Ltd. the letters which differed only in the data for the frequency bands intended for designation and which called for a request for a service concession. The conditions system communicated was essentially identical with that in the draft. In the interest of symmetrical treatment the letter addressed to Magyar Radiotelpon Ltd. also offered the 898-906 and 943-951 megahertz bands and, adjusting to the wording of the Hungaria-Telecom affair, created the impression that Magyar Radiotelpon Ltd. had been a party to the "exchange of letters concerning frequency designation." Both letters stated that in agreement with the addressees he regarded "the still open questions brought up in earlier correspondence to be answered."

The next day Hungaria-Telecom received the minister's communication and reported that on this day it had begun, jointly with the foreign partner, to work out the technical plans.

On 19 April the minister sent copies of the two letters (as an option permit) to representative Attila Zsigmond, who on 27 February had turned to the ministry with a question in connection with radio telephone systems. He stressed that the conditions were identical and very strict and that the systems would not be obstacles to joining the panEuropean digital systems. On the same day the minister received a letter from the Telecommunications Research Institute (TKI). In it the TKI requested a frequency designation in the 900 band for a mobile radio telephone service (to be realized by bringing in American capital and peak technology) compatible, as of 1992, with the panEuropean system, and it requested acceptance of its intention to participate in a possible competition.

The Kohem Communications Main Department informed the Enterprise Court that Hungaria-Telecom had not received a general permit for postal and communications activity. The company had taken cognizance of the fact that it had been informed about the lack of the legal and technical conditions. So the Kohem requested the Enterprise Court to erase the pertinent registration (24 April 1990).

The Frequency Management Independent Department prepared an answer, as instructed by the minister. In it the minister provided information about his earlier decisions and stated that a competition would be announced in the remaining bands (906-915 and 951-960) after they were freed. In a note attached to the draft answer the chief of the department stated that he had been informed indirectly of the designation without competition, that for professional and moral reasons he could not agree with the minister's action and that he saw no explanation for the haste (26 April). On 25 April the minister sent to the director of the Hungarian Telecommunications Enterprise a copy of the letter written for Magyar Radiotelpon Ltd. He sent copies of both letters to deputy minister Bela Doros and requested acceleration of the international harmonization and of the domestic measures due to be taken.

The 93d International Commercial Counsellors' Work Group informed the minister about its interest in the creation of radio telephone systems and asked that the ministry provide authenticated information about its own conditions system (also to clarify rumors which were gaining currency). An independent experts' study of ENTAS Ltd., ordered earlier, arrived according to which the question of mobile networks should not be handled independently of the development of the existing public network; the development of the analog and digital systems could be adjusted to one another, indeed their parallel development could not be ruled out; analog systems are now capable of satisfying the needs, introduction of the digital system would not be accompanied by a substantial expansion of service; and there is a need to work out as soon as possible a long range frequency management strategy worked out publicly on a professional basis.

On 4 May Zsolt Harsanyi, business director of Hungaria-Telecom, was empowered by the members of the corporation to discuss the creation of a joint venture and to sign the joint venture contract. Those signing were: BRG (Sandor Bognar), Technika (illegible), Centroinvest (Zsolt Harsanyi and T. Toth), Coopinvest (Zsolt Harsanyi) and System Consulting (Laszlo Kopolyi).

On 8 May a bank guarantee arrived at the request of Hungaria-Telecom: The Chase Manhattan Bank gave witness to the financial solvency of Contel. On the same day came a statement by Contel Cellular in which it expressed its readiness in regard to creating a joint venture, in recognition of the conditions contained in the letter of the ministry. It was ready to accept these, and it provided information on the technical philosophy for the development. It was ready to accept broad obligations in the technical field if it got unlimited access at an acceptable price to the network of the Hungarian Telecommunications Enterprise, the current COCOM [Coordinating Committee for Export Control] limitations ended, and there was an international frequency harmonization.

It also described its plans pertaining to competition among shippers and was ready to adhere to all prescriptions in the interest of obtaining the necessary operational permits. It summarized the financial elements of the concession requirement (even indicating an entry fee of 1,270 dollars). Citing the development policy guiding principles of the government and conversations conducted with officials of the ministry, it also made a proposal relative to national network development tasks and was ready to compete in this area with the Hungarian Telecommunications Enterprise. It promised far-reaching adherence to legality and open business conduct.

On 10 May Hungaria-Telecom submitted to the minister a draft of the concession contract and a statement by Contel Cellular accepting the concession conditions, in which Contel offered to submit to the ministry a realistic feasibility study after becoming acquainted with additional data. It also reported that Hungaria-Telecom had guaranteed to the BRG, at the Enterprise Court, a 51 percent majority share. It requested acceptance of the contract within a short time.

The minister and the director of Hungaria-Telecom signed the concession contract dated as of 10 May 1990. On 23 May Andras Derzsi issued a concession permit for Magyar Radiotelpon Ltd. The content of this was more concrete and differed in many respects from the Hungaria-Telecom contract. The formulation of the obligations was more precise; signatures of two directors of Magyar Radiotelpon Ltd. appeared on the document also, although the permit was issued by a unilateral decision, and it does not contain the conditions of the authorized party as formulated by him.

An Extension or a Tabula Rasa?

The Telecommunications Council, created in the spring and made up of enterprise representatives and government telecommunications experts, debated, on 11 June, the two documents issued for radio telephone networks (the Hungaria-Telecom concession contract and the concession permit of Magyar Radiotelpon Ltd.). The Council found that the issuing of the two documents was suitable for a discrediting of the concept of a concession so it would be useful if the minister were to distance himself from them; the issuing of the permit fell outside the sphere of authority of the minister on the basis of prior legal practice; the signature was not a matter of necessity, indeed a competition constraint existed on the basis of a public promise; the conditions accepted by the requestor were only apparently severe ones, the obligations falling on the giver of the concession were not advantageous and made the undertaking risk-free for the provider of the service; the grantor of the concession did not take into consideration the viewpoints pertaining to preparation for granting a concession as formulated by the two sister ministries (the Trade Ministry and the Ministry of Industry). So the Council recommended a legal review of the permit and the contract, considering action up to a withdrawal, with consideration also of the possibility of a reparation obligation.

A spectacular withdrawal could be well justified by the change in government, since the documents were signed by a managing minister acting with unclarified authority, and such a step could even bring an improvement in domestic and foreign good will. Even if an informal reconciliation seemed best there had to be a review of the procedural system.

On 22 June the ministerial college debated the questions surrounding the radio telephone systems—also with regard to the conditions system for World Bank loans.

In a letter four days later, the Ministry of Transportation and Communications informed the directors of Hungaria-Telecom and Magyar Radiotelpon Ltd. that an investigation had begun in the matter of the radio telephone agreements. In his answer (2 July) the director of Hungaria-Telecom offered the opinion that the investigation did not affect the concession contract as a unilateral change could not be effected. So one could not count on the possibility of a change.

Hungaria-Telecom, in a letter, informed Csaba Siklos, the minister of transportation and communications in the new government, of the unworthy efforts of its business competitors, of the bureaucratic obstacles and of the behavior of Hungaria-Telecom, characterized throughout by good will and a readiness to undertake conditions of unexampled severity. It informed him that the expenditures thus far came to several million dollars or several hundred million forints and that the application of 15,000 subscribers could be taken as certain. The director requested, not only in the name of his honestly obtained rights and opportunities but also "in defense of

the economy of the country," a final conclusion to the case, and he was willing to have full publicity. This was urgent because a month of lost time "could ruin all the activity of the company" and could give the other affected system an advantage which could not be overtaken. The director attached to the letter documentary material connected with the formation of Hungaria-Telecom.

Since May 1990 Hungaria-Telecom had been advertising its system widely, was accepting applications and had signed agreements, taking in 80,000 forints in entry fees. It provided information about the formation of Contel-Hungaria.

Distributed and Designated?

By the beginning of August 1990, a committee formed in the ministry, consisting of outside experts not involved in the radio telephone affair, had completed its investigation and submitted its report to the new minister. The report found that a number of illegal steps had been taken in the matter of radio telephone authorization, on the part of the ministry and of Hungaria-Telecom, and on the basis of legal opinion the concession contract could not be regarded as valid. It regarded as absolutely necessary an adjustment aimed at adhering to the regulations, disclosing the earlier errors and making them public.

The committee saw essentially two possibilities for settling the situation as it had developed: either invalidate the contract signed on the basis of legal violations which had taken place along the way, creating a sort of tabula rasa, and announcing a new competition which fit into the ministry's telecommunications policy; or, taking cognizance of the past antecedents, seeking a compromise solution. As part of the compromise Hungaria-Telecom-Contel would get a permit for 5 megahertz of frequencies with new conditions, and there would be a competition for the remaining frequencies.

But this compromise solution would probably have the consequence of having future players on the Hungarian mobile telephone market appearing for designation, for assignment of the frequencies available for this purpose. Minister Andras Derzsi had promised frequencies in the 900 megahertz band not only to Hungaria-Telecom but also to Westel. So if Hungaria-Telecom got a concession in this range without competition, within the framework of a compromise, then Westel also could justly demand the frequencies promised to it in the 900 range. Since it is very likely that the market for a mobile service can, for the time being, not bear more than two providers this would effectively divide up the market and the frequencies. And this solution would sharply contradict the obligation publicly undertaken and constantly represented since 1989 by the professional staff of the ministry in regard to other large Western firms and domestic bidders wanting to participate in mobile telephony, namely that following suitable regulatory preparation

the firms making the best offers would be selected by open international competition in the 900 megahertz frequency band.

On the basis of the committee's report Csaba Siklos rejected compromise and during August 1990, he invalidated the contract signed by his predecessor, and informed the director of Hungaria-Telecom of this in a letter. The reason for the nullification was the illegal nature of the contract and the fact that at the time it was signed Hungaria-Telecom Ltd. did not as an entity meet the legal conditions then in effect. At the same time the minister withdrew the promise given by his predecessor to Westel in regard to the 900 megahertz band.

At the same time the minister also decided that a competition for the mobile telephone service to be offered in the 900 megahertz band must be announced as soon as possible; in the wake of this the ministry could begin professional preparatory work on the tender. The following communique appeared at the beginning of October 1990 concerning the decisions made by the minister:

Statement in the Matter of the Radio Telephone

"In the recent past a number of articles have appeared in the Hungarian and international press in the matter of authorizing the creation of radio telephone systems, articles reflecting various positions and indicative of contradictory expectations and motives. In the interest of clarifying the situation and of providing appropriate information to future radio telephone providers and subscribers wanting to make use of these services the Ministry of Transportation, Communications and Water Affairs considers necessary the following announcement:

"Andras Derzsi, the former minister, signed a concession contract with the Hungaria-Telecom company on 10 May 1990 concerning establishment of a radio telephone network operating at a frequency of 900 MHz and concerning the providing of a service. However, an expert committee created on the basis of a commission from the new minister, Csaba Siklos, and bringing in outside experts, has pronounced this contract invalid, because at the moment of signing the contract the Hungaria-Telecom company did not meet the legal conditions in effect giving the right to provide such a service. Thus the contract did not come into existence in a valid way. In addition the company does not have and never did have the frequency permit needed to make the contract valid. The new minister informed the director of Hungaria-Telecom of all this in his letter of 22 August 1990.

"The Ministry of Transportation, Communications and Water Affairs intends to announce an open international competition for establishing a radio telephone system operating at a frequency of 900 MHz and for providing such a service. Hungaria-Telecom or the joint venture established by it is expected to make a bid in this competition, insofar as this corresponds to the laws in effect. The announcement of the competition will take

place during October 1990 following a ministerial decision pertaining to the band use of the frequencies. It is the intention of the Ministry that a new monopoly should not arise in the area of radio telephony, or that such a monopoly should be liquidated in such a way that several companies, competing with one another, should offer such telecommunications services."

From the Competition to the Court

On 30 October the Ministry of Transportation, Communications and Water Affairs (KHVM) published an open international competition for the winning of two permits. One permit is in the 890-898 frequency range and the other is in the 898-905 megahertz range—valid until 1992 only in the area of Budapest—to establish a mobile telephony network and offer services thereon. The future holder of the permit in the lower frequency range can start service at the lower 5 megahertz frequencies by building up an analog system, but later he must gradually shift to a GSM [satellite] digital service. According to the tender the provider of the other service, for the time being in Budapest, must build up a GSM digital system ensuring connection to the paneuropean network. The competition documents define in detail the technical, economic, and commercial-financial conditions pertaining to building up the network and providing the service. The competition invitation announced for November 1990 a prebid conference for those wishing to participate and stated that the competition would be judged and the winners chosen by January 1991.

Shortly after this announcement, in November 1990, Hungaria-Telecom filed a suit against the KHVM in regard to the validity of the contract signed earlier. In its judgment of 7 December 1990 the Capital Court, judging essentially for Hungaria-Telecom, pronounced the earlier contract valid and regarded only some details thereof as nullified.

The KHVM submitted an appeal against the judgment to the Supreme Court and simultaneously postponed the announced tender conference until the Supreme Court renders a decision on the appeal. According to our most recent information, the Supreme Court has set a discussion of the appeal for the end of March 1991.

Legal Aspects

91WS0357W Budapest COMPUTERWORLD/
SZAMITASTECHNIKA in Hungarian 28 Mar 91
pp 18-19

[Unattributed article: "Document Extracts; Report on the Concessions for Public Radio Telephone Networks in Hungary"]

[Text] "Did he not know, who created the cleft, what he did with his right hand, and what with his left?" (Babits, "The Book of Jonah")

Minister Csaba Siklos issued a directive for the study which constitutes the basis for the following report on 22 June 1990. He did so on the basis of the following considerations:

—Some of the last decisions of Andras Derzsi, the minister who left office at the end of May, were made under the pressure of time and were embedded in the value system of the period prior to the change of system.

—The transformation of the legal system (which involves ownership of and trade in goods not earlier considered as property) is being dragged out, the acquisition of rights and the transfer of true counter-value for them may become separated from one another, preventing this is especially important in the case of national treasures.

—In the interest of producing and of making optimum use of resources for the telecommunications development program the conditions system for the development of subareas with significantly different profitability must be harmonized.

Antecedents

The capacity shortage of the public landline telephone network, the swiftly increasing and differentiated needs of business life and the above average profitability of mobile systems creates in Hungary a very strong incentive for the creation of mobile radio telephone networks. The Hungarian Post Office has dealt with such plans since the middle 1980's and since 1988 more and more entrepreneurs have appeared with developmental proposals. The majority of them were aware that a competition proposal could not be expected before the development of a frequency management concept, the implementation of international agreements, and the creation of legal frameworks. There were, however, two exceptions.

During 1989 one of the legal successors of the Hungarian Post Office, the Hungarian Telecommunications Enterprise which was being organized, developed an earlier contact which had expired due to COCOM restrictions. Making use of the possibility given in its sphere of authority for access to a frequency use permit without competition it created, with the participation of the American U.S. West, Magyar Radiotelefon Ltd. This company began to develop a radio telephone system around 450 megahertz in a range about 4 plus 4 megahertz wide.

Coopinvest, the Technika KV and the BRG (from the fall of 1989 this meant Hungaria-Telecom Ltd. as transformed by them) undertook the risk accompanying the uncertain situation and began development, requesting preliminary, conditional permits. By the fall of 1989 some disputed questions had been resolved but the laws needed to reorder matters had not been passed. For this reason, at the end of 1989, the ministry ruled out

finalizing the permits received by Hungaria-Telecom and dismissed their appeals at the beginning of 1990.

The Legal Status of the Contracting Parties

It is the unanimous conclusion of the legal opinions prepared within the framework of the investigation that the Kohem (and the minister personally) was not entitled to sign a concession contract. The legal status of Hungaria-Telecom did not meet the legal requirements (none of the legal successors to the Hungarian Post Office was a member of the corporation, according to the data of the Enterprise Court the share of the state property did not reach 51 percent and not one of the members had the necessary service provision permit). Thus the invalidity—even null nature—of the contract can be pronounced with all certainty.

Since the Kohem had acted illegally, this is above dispute, a reparations obligation could be possible. The magnitude of this would depend on a determination of the culpability of Hungaria-Telecom and, in the case of others affected (Contel Cellular and the subscribers), of their own risk, reparations obligations and actual harm.

Technical Content and the Content of the Contract

It appears unambiguously from the contract as a whole that Hungaria-Telecom, without capital of its own, obtained the frequency use right from the Hungarian state (without immediate payment of a single sum fee) and was ready to sell the service authorization it felt it had to serve as its share in a joint venture the creation of which was a function of precisely the ownership of these rights. The contribution of the foreign partner provided the technical and material foundations in this joint venture.

It is a false assertion according to which the contract guarantees extraordinary advantages to the Hungarian side. On the contrary, there are very many disadvantageous conditions. The great majority of the disputed questions are not of a technical nature (or are so to only an insignificant degree). Professional opinion is divided as to when and at what cost the building of analog and digital systems is justified, whether, hindering one another or building on one another (tied together), they could be temporary or lasting elements of telephone culture—and the lines of this debate spread to broad professional public opinion and they change in time. The investigation could have evaluated the various views in an unbiased way only in the light of a developed telecommunications strategy which had matured through debate. Lacking such a strategy it could not turn to this sphere of questions.

The timing of certain developmental steps represents an exception in this regard. The system of Magyar Radiotelefon Ltd. started earlier, but in a frequency band and in such a narrow range that there are in general no

professional doubts about the lack of technical conditions for competition. The question is not judged uniformly by professional public opinion in the 900 megahertz range either, whether within a foreseeable time it is useful or even permissible to build analog systems in a broad frequency range or whether bands must be reserved for digital technology and broad competitions should be announced, taking into consideration the gradual freeing of frequency ranges. The report does not take a position in this debate.

The Concession Permit

Since 1988, the Hungarian Post Office has had a frequency designation resolution for a public radio telephone network in the 450 megahertz range. In the summer and fall of 1989 it applied to the Kohem for additional designations in the 800 and 900 megahertz bands—without success. The association contract for Magyar Radiotelefon Ltd., the joint venture of the Hungarian Post Office and U.S. West, was signed on 4 December 1989; the investigation found no cause for doubts in regard to its legal status.

The legality of the concession permit issued for Magyar Radiotelefon Ltd. can be disputed in the same sense as the contract, from the side of the authorizing party. In character it is a permit, in it only the grantor of the concession formulates conditions, those signing for Magyar Radiotelefon Ltd. state that they are aware of these.

Nor can one doubt the right of the Hungarian Telecommunications Enterprise, as a legal successor to the Hungarian Post Office, to provide a service. The basis of the charges involving the role of Magyar Radiotelefon Ltd. (the charges are sometimes only allusions) is thus essentially the fact that it came into being under not purely competitive conditions.

Hearings

In the interest of clearing up the tangled interconnections, which could be found only fragmentarily in the written documents, hearings were requested with a few people who had played key roles in the course of the events. The purpose of the hearings was to learn the personal motives and to show that the investigation:

- Was striving to show the situation without prejudice.
- Wanted to reach the broadest clarification of the questions.
- Did not recoil from introducing contrary conceptions.
- Was seeking possibilities for a constructive solution.

The request for hearings was accepted and so Endre Csernak, Andras Derzsi, Bela Doros, Gabor Gyulai, Sandor Gyurkovics, Zsolt Harsanyi, Laszlo Kapolyi and Jozsef Pete contributed to the results of the investigation.

Conclusions and Recommendations

It follows unambiguously from legal considerations that pronouncing the concessions (both contract and permit) null or invalid is, on the one hand, a natural possibility and, on the other hand, of fundamental interest to legality. From the viewpoint of the Hungarian legal system, which wants to approach the norms of international competitive practice, not a single irregular situation can be tolerated and accepting the effect of a precedent which violates concession principles cannot be permitted. At the same time, restoring a clear legal situation does not mean a solution from the following viewpoints:

- The legal environment necessary for issuing a clear concession corresponding to international custom is still lacking, when telecommunications and concession laws will be passed is uncertain, the principles and content of these are not yet cleared up in every respect.
- A competitive situation does not come into being automatically, the ministry declared an intention to publish many times and it has work materials but there is no finished tender documentation; according to expert estimates this could be published no sooner than the beginning of October (and due to the lack of the cited legal environment one can imagine only a competition announcement which is open with some of the conditions again being supplemented by state administrative or governmental decisions).
- Declaring the concession permit to be null would not affect the monopoly situation of Magyar Radiotelefon Ltd., the technical basis for that is in the 450 megahertz range and this step supports the contrivance of a modus vivendi.
- It is not possible today to estimate reliably the moral and material damage (and thus the material burden of a possible suit) to Contel Cellular, Hungaria-Telecom and other interested parties.
- The weight of the arguments (serious or demagogic) castigating the further delay in improving telephone supply and the governmental administration limiting free enterprise may prove comparable with the legal, ethical, economic, etc. arguments which may arise in connection with a case which has turned into a wider bed in the course of debate.

Nor can the future behavior of the affected parties be measured with full confidence. One might count on uncertain but probably vigorous counter steps from Hungaria-Telecom; one does not know the degree to which Contel may want to deviate from the position of its joint venture partners but it is probable that it attaches to a presence on the Hungarian market an interest extending to acceptance of a serious, real compromise.

A number of other questions may arise if, in possession of credible data, one could weigh the legal status of the joint venture, the reality and source of the capital shares; at present, one can only speculate. So in taking a position

the ministry is certainly justified in leaving open the possibility of future agreements, even if the government resigns itself to "restoring order" in a way which may come to trial. We describe in detail four of the strategies which might be considered; there are numerous common steps in versions A, B, C and D and naturally one can imagine other combinations of them.

A. A Position Committed to Competition, Even Accepting a Trial

1. Judging the concession grant and the activity of the people involved therein; distancing oneself from it; making public the errors, irregularities and thoughtless acts committed on all interested sides, trying to be complete so as to rule out the possibility of future "disclosures."
2. Announcing the null (or invalid) nature of the concession contract, withdrawing the concession permit, with recognition of the consequences of a possible trial (the statements pertaining to the two concessions could be separated, but in this version this is not advisable).
3. Announcing an intention to bring people to account.
4. An appreciation of the well-meaning and constructive efforts of the partners who lose the concession.
5. Public formulation of the ministry's basic principles for competition and granting concessions.
6. Announcing the intention to publish a competition for entrepreneurs interested in establishing radio telephone systems in bands to be designated within the 890-915 (935-960) megahertz range.
7. A comparison of the damage and disadvantages accompanying the halting or modification of developments under way with the advantages attained by virtue of the decision.
8. Preparing for the legal remedy or reparation steps to be expected from those affected.
9. Developing and conducting the authorization procedures needed for operation in the 450 megahertz band by Magyar Radiotelefon Ltd.

B. A Pragmatic Position Committed to Competition

1. Judging the concession grant and the activity of the people involved therein; distancing oneself from it; making public the errors, irregularities and thoughtless acts committed on all interested sides, trying to be complete so as to rule out the possibility of future "disclosures."
2. Announcing the null (or invalid) nature of the concession contract, withdrawing the concession permit, with recognition of the consequences of a possible trial (the statements pertaining to the two concessions could be separated, but in this version also this is not advisable).

3. Announcing an intention to eliminate the errors and deficiencies, an appreciation of the well-meaning and constructive efforts of the partners losing the concession.
4. Public formulation of the ministry's basic principles for competition and granting concessions.
5. Announcing a narrow, short time limit, by invitation competition in the 890-895 (935-940) megahertz band, with prior assurance of the legal nature of the ministerial conditions, making public a clear procedural system.
6. Initial steps to modify the postal law (to broaden the restrictions connected with the ownership ratio and operational monopolies).
7. Developing and conducting the authorization procedures needed for operation in the 450 megahertz band by Magyar Radiotelfon Ltd.
3. Announcing an intention to eliminate the errors and deficiencies, an appreciation of the well-meaning and constructive efforts of the partners losing the concession.
4. Public formulation of the ministry's basic principles for competition and granting concessions.
5. Conditionally granting to Contel-Hungaria the 890-895 (935-940) megahertz band (based on prior approval by the Council of Ministers), initiating harmonization discussions to develop new, balanced and clearly formulated conditions.
6. Emphasizing openness in regard to expanding the radio telephone systems, announcing the intent for open competition in the ranges to be gradually opened in the 895-915 (or 940-960) megahertz band.
7. Developing and conducting the authorization procedures needed to operate in the 450 megahertz band by Magyar Radiotelfon Ltd.

C. A Position Seeking a Compromise by Special Procedures but Open to Competition

1. Judging the concession grant and the activity of the people involved therein; distancing oneself from it; making public the errors, irregularities and thoughtless acts committed.
2. Announcing the null (or invalid) nature of the concession contract, withdrawing the concession permit.

D. A Position Seeking an Informal Compromise

1. Evaluating the legal uncertainties surrounding the granting of concessions, justifying the review in light of the contradictory conditions of the transitional period.
2. Announcing an intention to eliminate the errors and deficiencies, an appreciation of the well-meaning and constructive efforts of the partners losing the concession.
3. Initiating new discussions within the framework of harmonizing the concession documents, with the intention of eliminating their irregularities granting concessions.

Budapest, August 1990

COLOMBIA

Nationwide Cellular Phone Network To Be Installed

91WT1047A Bogota *EL ESPECTADOR* in Spanish
22 May 91 pp 1B, 4B

[Text] Within two years mobile cellular telephone service will be widely available in Colombia. Hopes are high for cellular phones in industrialized countries, and in recent months the service has become available to a limited number of users in Cali, Medellin, and Bogota.

The National Telecommunications Company (Telecom) and local phone companies from 26 cities recently presented their "National Development Plan for Mobile Telephone Service" to the National Planning Department (DNP) and the Communications Ministry. The companies hope the plan will lay the groundwork for providing cellular service nationwide.

The companies' goal is to set up a mobile communications network to meet existing demand (of nearly 60,000 users). This would put Colombia on a par with such other countries as the United States, Venezuela, Brazil, Sweden, Spain, and Denmark.

The cellular system now operating in Cali, Bogota, and Medellin serves a scant 15,000 users. However, the plan filed with the Communications Ministry and DNP would increase the number of users to around 127,000.

Radio Signal

If the project stays on schedule, Colombia will have cellular phone service in two years, according to its coordinator, Dr. Nohora Varga de Villar [as published]. It will allow customers to make local, domestic, and international calls without accessing the complex cable network now in use.

This kind of convenience is possible because mobile phones work on radio signals. Special stations on frequencies assigned by the Communications Ministry pick up the signals and route them. The technology permits cellular phone use anywhere within the service area.

The plan drafted by Telecom and the local phone companies divides Colombia into six major regions, and it will be up to the phone systems in each city to offer mobile service.

The regions will have six central switching sites, 14 remote switching sites, and 198 base stations. System installation costs will come to \$256 million.

Intendencies and Comisarias

As presented, the project focuses only on Colombia's 24 departments. However, if phase one is well received, Nohora Vargas said steps could be taken towards beginning phase two which would include the intendencies and comisarias.

Low current demand for the service in these outlying districts and the high cost of installing mobile phone networks rule out expansion during the project's first phase.

"If we get a good reception in areas targeted so far," Vargas said, "we might be able to penetrate areas of the country that are important for oil exploration, farming, and the raising of livestock."

The plan regards the intendency of San Andres and Providencia as a special case. In addition to switching sites and base stations, linking the islands to the mainland would require an infrastructure more complex than the one called for in the plan.

The work needed to do this would generate major cost increases and would add to customer service rates. "It would not be fair to make users in the islands pay more than those on the mainland," Vargas said.

The plan filed with the Communications Ministry and DNP calls for services to be provided by public utilities in each city. However, the telecommunications law of 19 August, 1991, opens the way for public and private utilities to compete with each other in providing telecommunications services.

Multiple offers to provide services will do more than prove that the public sector is capable of development. They will also prove that Colombia has the maturity to diversify services without harming companies such as Telecom that in the past have had the field of domestic telecommunications to themselves.

BANGLADESH

Autonomy for Television, Radio Rejected

91WD0849A Dhaka *THE NEW NATION* in English
16 Apr 91 pp 1, 8

[Text] The House yesterday rejected by voice vote the resolution seeking to transform Radio Bangladesh and Bangladesh Television into autonomous organizations free of government control.

The resolution which was tabled by Mr Rashed Khan Menon of opposition was reflective of the provisions of the Joint Declaration of the three alliances seeking to free the mass media including radio and television of the government control.

Summing up the debate on the resolution the State Minister for Education Md. Nurul Huda said the newspapers of the country had been freed by the BNP government of all draconian laws and, therefore, they can operate without any government control.

Tracing the history of television in this country he said it was Awami League government which brought television under government control in December 1972. Now BNP government is being asked to emancipate it from the government control.

Mr Nurul Huda said the present government had already granted autonomy to TV for projection of news and programmes. It is no longer a "shaheb-bibi-golam affairs." Television news often highlight the activities of the opposition leader Sheikh Hasina Wazed in greater details than those of the leader of the House Begum Khaleda Zia.

Referring to the resolution demanding emancipation of radio and TV he said it's a good resolution. But its implementation will require some time. He said the committee had been formed to recommend suitable measures for the purpose. He further said the Government was contemplating to bring in a bill to make radio and TV free of government control.

Earlier participating on the debate on the resolution the Deputy Leader of the House Prof. Badruddoza Chowdhury said the objective of the resolution is to make sure that radio and TV reflect languages, literature and culture of all ethnic groups, and not to play down democratic aspiration of any group. He said the objective of the bill was to make these mass media commercially profitable organizations not to tie to apron string of any individual or any political organization. It requires some time and careful study to achieve all these objectives.

Earlier speaking on the resolution the Opposition Leader Sheikh Hasina said its objective is to ensure independent credible mass media which is essential precondition to flourishing of the democracy as has been outlined in the Joint declaration of the three political alliances. Those who will oppose these stipulation of the joint declaration will be identified as the national betrayer.

Sheikh Hasina said TV artists played a vital role during the mass upsurge. They also demanded that these mass media should be freed from the government control. She wanted TV to properly project the war of the liberation of the country and reflect through its programmes our national culture.

Earlier moving the resolution Rashed Khan Menon underlined the urgency of making electronic media autonomous organizations free of government control.

He said BBC in London, NHK in Japan, TV channels in USA are operating without any government control. The electronic media also in Bangladesh should also be allowed to operate independently. He suggested the formation of a parliamentary sub-committee to formulate its policies and spell-out operational guidelines.

INDIA

Indo-Pakistani Telecom Talks Held

91WD0842A Calcutta *THE STATESMAN* in English
24 May 91 p 6

[Text] New Delhi, 6 May—The eighth Indo-Pak Telecommunication Operational Co-ordination's meeting was inaugurated here today by Mr. G.T. Narayan, adviser (Operations) of the Telecom Commission.

The present meeting is in continuation of the on-going exercises to sort out mutual problems of co-ordination in maintenance and operation of international telecommunication services between the two countries. As a result of the earlier meetings, bureaufax, telex, ISD services and others have been introduced between the two countries.

Inaugurating the meeting Mr. Narayan observed that telecommunication links played a vital role in the exchange of information and improvement of socio-economic ties and from this point of view the India-Pakistan telecom co-ordination meetings has a crucial role to play.

Commenting on the transformation of the Indian telecom network from analogue environment to digital, he said that at present the digitalization in the Indian network was to the extent of 15 per cent in transmission system and about 20 per cent in local exchanges. For large scale induction of digital equipment, the policy of indigenization for the manufacture of various switching and transmission telecom equipment in the country needed to be pursued. It would be worthwhile to explore the possibility of effectively utilizing the surplus production capacity if any, of both the countries to serve the mutual interest as well as the interest of neighbouring countries.

OMAN

Telecommunications Progress Summarized

*91WT0144A Muscat TIMES OF OMAN in English
29 May 91 p 1*

[Article by Bala Menon: "Total Telecom for All Oman by End of Plan"]

[Text] High-quality telecommunications services will blanket the country by the end of the current Five-Year Plan, Nur Bin-Muhammad Bin-'Abd-al-Rahman, President of the General Telecommunications Organisation, told the "TIMES" in an exclusive interview.

"More than RO 93 million has been allocated for new projects during this period—although most infrastructural telecom projects have been completed during the previous development plans."

Among new programmes scheduled to start this year are installation of new digital exchanges in Fanjah, Izki, Bidbid, Yahmadi, al-Ma'zim, Misfah, al-Karshah, Rad-dah, Aflaj and Taymsah.

A contract has already been signed for expansion of existing exchanges in Muscat, Dhofar and the al-Batinah "so that we can meet the increasing demand for telephone services."

Already, the total number of telephone lines available has reached 144,774 and great advances have been made in the cellular mobile radio network. Introduced in 1985, it covers the main areas of population and the main highways with provision for expansion into remote areas. Mr. Nur Bin-Muhammad said the GTO is also to launch a public paging service by the end of the year, similar to the one introduced by Etisalat in the UAE. "Cordless telephones have been liberalised here a long time ago and are now available in the market and can be used by anyone. Imported cordless telephone equipment, however, will have to meet GTO specifications." Also in the pipeline are data packet services for companies.

The Third Five-Year Plan saw the creation of nearly 16,000 new lines along the al-Batinah and Qurayyat region in projects which included six main exchanges together with six remote switches. A rural project for the development of telecom facilities in 39 small towns and villages was also completed along with an expansion project in Salalah and other urban settlements.

This involved a completed system of telephone exchanges, subscriber and junction cable networks, a microwave system, long-distance coaxial and optical fibre cable systems and rehabilitation of existing systems and networks.

To link up remote areas of the country, the GTO has gone in for microwave links in a big way. An early success was the link between north and south Oman which allowed 960 telephone channels with two-way

television transmission. The upgrading of the 'Udhaybah-Nizwa coaxial cable allowed the long-distance microwave between Nizwa and Salalah to be linked to Muscat.

Microwave Link

The implementation of a microwave link between Khasab and Khatmat-al-Malahah was followed by the connection of that link to Suhar through fibre optic cable.

Fibre optics have also played a part in other projects—one through Siemens for the expansion of communications in the al-Batinah and Salalah areas which allowed for an alternative route involving fibre optic cable between 'Udhaybah and Suhar; the other—through Sumitomo—to extend the fibre optic cable beyond the Sultanate to form the Suhar-al-Fujayrah link.

A new satellite earth station in 'Ibri, along with a fibre optic cable transmission link from Muscat to 'Ibri through Firq will become operational next year, Mr. Nur Bin-Muhammad said. "At present, GTO has two earth stations at al-Amirat for our international communications: they work via Arabsat and Intelsat Atlantic Ocean

"It was to cover the remaining part of the globe that we signed an agreement with an American company last year to instal the new 'Ibri station." The first satellite station in Oman was set up in Muscat in 1974, which was replaced a year later by a new one at al-Amirat, the old one moving to Salalah. In 1985, al-Amirat 2 was commissioned—linked to the Arabsat system, allowing Oman to switch its telecommunications links with other Arab countries from Intelsat to Arabsat.

GTO has also introduced a Supervised System for its transmission network. "The system—ZAN 101—introduces the novelty of centralised supervision and maintenance of transmission and related equipment. It collects alarms from such equipment and presents this information to the operator in a clear form, giving the identity of the object and the urgency of the alarm."

This makes it possible to use ZAN 101 as an alarm supervision system and to locate faults on the digital line system, causing the least amount of lost time for the subscriber. Mr. Nur Bin-Muhammad said the organisation was now paying attention to the country's rural areas and "the emphasis on such areas in the plan has encouraged the search for ways to reach limited populations in isolated areas as economically as possible."

To this end, a new type of public telephone is being installed in a number of villages. "It is a card phone, but with a difference—it has been converted by the GTO from a system that can only function in the conventional network to one that can be operated in the mobile network. The system involves specially-made software and a machine with self-tariffing ability."

The first of these unique phones was installed in the remote village of Balad Zayt, he said.

Joint Venture Provides Direct Viborg-Finland Calls

*91P20370A Helsinki UUSI SUOMI in Finnish
24 May 91 p 2*

[Unattributed article: "Direct Phone Line to Viborg"]

[Text] It is now possible to make automated calls from Finland. This automated connection has been constructed by a Finnish-Soviet joint-venture firm, Lenfin-com, whose Finnish partner is Tele [government-owned phone company]. One can phone Viborg automatically by first dialing the trunk prefix 990-7-81 278.

Estonia's Estpak Testing Ericsson X-25 Net

*91WT0131A Reykjavik MORGUNBLADID in Icelandic
16 Apr 91 p 37*

[Unattributed report: "Estonian Telephone Authorities Inspect Management of Net"—first paragraph is MOR-GUNBLADID introduction]

[Text] Juri Liivaak, managing director of Estpak, Estonia's telephone and postal service, and Mait Heidelberg, Estpak's chief engineer, were here in Iceland last week to study the management of the Postal Service's public X-25 net. They plan to put a net from the same producer, L.M. Ericsson, into use in Estonia soon, and they wanted to study how it was working here. The Postal Service is

the only telecommunications service to employ this system for public use, as it is most commonly used in private businesses. The X-25 system is used as a standardized interface between computer systems, and was set up in Iceland in 1985. Liivaak and Heidelberg said that a similar net also used in Iceland was set up by Estpak last December and was now being tested. They hoped it would be possible to put it into public use next month. They said that their visit to Iceland had been very profitable, and that they were convinced that they had chosen the right system. For the present, the Estonian network system will be used by all the Baltic countries, but they considered it likely that Latvia and Lithuania would set up their own systems later on. On the other hand, setting up joint ventures between the countries in other areas is most essential. They said that Baltic countries' telephone system was generally quite good when compared to the telephone system in the Soviet Union. Forty percent of the population have telephones, but unfortunately sixty percent of them are still hand-operated. They said that they were working extensively with the Finnish and Swedish telecommunications services, so that the Finns and the Estonians can now watch each other's television broadcasts. Something similar is in the works for Sweden. They said that they were happy because they had now started working with the Icelandic Postal Service as well, and they hoped that the relationship would be a good and long-lasting one.

REGIONAL AFFAIRS

EC, Industry Agree on D2 MAC Standard

91WS0325X Paris *LE MONDE* in French 26 Apr 91 p 28

[Article by Philippe Lemaitre: "Brussels Will Help Television Industries Move Toward High Definition"—first paragraph is *LE MONDE* introduction]

[Text] Under the aegis of the European Community, electronics manufacturers, satellite operators, and television stations have reached a compromise on introducing the new television standards. Brussels will provide financial help for a gradual shift from PAL [Phase Alternation Line] and SECAM [Sequential Color and Memory] to European high-definition television.

"We've got the agreement." Mr. Felipo-Maria Pandolfi—European Commission vice president and sponsor over the last several months (see *LE MONDE* 30 March) of the conversations among the different parties concerned by HDTV—was jubilant. Relations between the different industry players, once freed of their mutual distrust, should make it possible to get off to a good start again in the HDTV race against the Japanese that the Europeans began four years ago. And, in so doing, provide a shot in the arm to the Community's electronics industry, which sorely needs one.

"We've won. From now on, Murdoch talks and deals with Gomez and Timmer,"¹ exclaims Mr. Pandolfi. The Commission's vice president, who made his comments outside the context of a meeting of the Twelve's research ministers, was visibly anxious to show that the Commission is determined to act, both here and in the field of semiconductors, to prevent the European electronics industry from going under. Actually, his concerns on that score are a bit premature. "We should have a draft agreement in hand by next week: The practical modalities—timetable and the rest—still have to be spelled out, but politically, it's done."

The proposed solution has two components. One is legal: The Twelve will extend the European directive requiring the use of D2 MAC for satellite transmissions, while broadening its scope to include medium-power satellites (those most used by private stations). It is understood that this restriction would only be applied gradually. The second component is private: Manufacturers, television broadcasters, satellite operators, and program producers will create a consortium to promote the European standard and the equipment that supports it.²

Stations now broadcasting in PAL and SECAM would promise to gradually begin transmitting in D2 MAC; manufacturers will do what is necessary to bring out the new equipment, particularly 16/9 screen sets, in time, in sufficient quantity, and at a good price; producers will step up the number of programs shot in D2 MAC. And the whole television aristocracy will be helped to keep

these promises by the European budget. The interindustry agreement that is being looked at—"it would involve written commitments," says Mr. Pandolfi—will be effective for five years, and renewable.

Examples of how the Community's assistance will be used include partially subsidizing the cost of shifting from D2 MAC to HD MAC, which is the final standard, and bringing cable operators into the picture.³ Mr. Pandolfi also plans, still for the sake of enlarging the D2 MAC and 16/9 set markets, to grant subsidies to spur Hertzian operators to join the consortium as well: a way of finally convincing "his friend Berlusconi" of the MAC family's merits.

Footnotes

1. The respective CEO's of Thomson and Philips.
2. The leaders assembled in a EUREKA project are Thomson, Philips, Bosch, and Nokkia.
3. The European high-definition television standard is called HD MAC and will be available toward the middle of the decade. The interim standard, D2 MAC, already offers viewers appreciably better picture and sound quality.

Ericsson To Share Patents, Data With Philips

91WT0130A Stockholm *DAGENS NYHETER* in Swedish 20 Apr 91 p C 3

[Article by Jan Nylander: "Ericsson and Philips Conclude Agreement"]

[Text] Ericsson and Philips have concluded an agreement under which the companies will share certain patents and data concerning mobile telephones.

The agreement focuses on future technologies. For example, Ericsson has a very strong position in DECT [expansion not given] technology—the digital, wireless telephones that are expected to come onto the market in a few years. They will share data with Philips on that subject.

The Dutch giant electronic concern is also far ahead in certain research fields where they contribute with their technology. For example, the company has an important patent for a so-called speech coder for the GSM [expansion not given] system—the new Pan-European mobile telephone network that now is being developed in Europe.

"We will both create strong positions in the market for ourselves by exchanging information," says Information Chief Per Bengtsson of Ericsson Radio Systems.

He points out that both enterprises will continue to compete with their products.

"The result of the elimination of obstacles between producers will be that there will be more suppliers for the

system, and that in turn will make it possible to introduce new systems into the market more rapidly," Per Bengtsson says.

Ericsson is also negotiating with other big manufacturers in order to share certain patents with them.

"Discussions are going on continually," Per Bengtsson says.

BELGIUM

Alcatel-Bell Pleased by 1990 Results

91WT0133A Brussels LE SOIR in French 8-9 May 91 p 4

[Article by Philippe Berkenbaum: "Alcatel-Bell in Fine Form"—first paragraph is LE SOIR introduction]

[Text] "Better than 1989, which was already an exceptional year!" John J. Goossens, head of Alcatel-Bell Telephone, did not hesitate yesterday to use the term "success" in presenting his company's results for 1990. Indeed, against the background of a gloomy economic environment and a sector marked by struggle throughout the world, the performance of the top Belgian firm is quite respectable.

Of the 42 billion Belgian francs in overall turnover, the firm's companies in Belgium took in 31 billion, yielding a profit of 2.7 billion. Leading the way, Bell Telephone (Anvers) enjoyed a 2-percent increase with its turnover of 25.4 billion and a profit of 2.1 billion (+10 percent). On the whole, Goossens said, all the firm's companies posted positive results.

In terms of accomplishments during the past fiscal year, the firm points to additional orders from the RTT [Telegraph and Telephone Administration] (mainly to reduce waiting lists for connections), continuation and expansion of commercial relations with the USSR, and the creation of a joint venture with the Administration called "Brains," which for the first time propels the firm into the highly promising field of telecommunications services.

In short, it was a good year for Bell, although the firm must not let itself be "blinded" thereby, in Goossens' own words. New legislation, the slump in economic activity, and the uncertainty that reigns in certain regions of the world all give cause for caution, he added, while remaining optimistic about the future. The order book has never been so full and 1991 began with a fanfare when the firm won two victories, in Singapore and Australia, beating out the Japanese competition.

There remain the "hot deals" for the current year. In addition to finalization of the Soviet transaction, Bell is now focusing its attention on the launching of Alcatel-Great Britain, in which it has bought 60-percent of the shares (its parent company Alcatel, world leader in

telecommunications, entrusted it with the task of masterminding penetration of the British market), and particularly renewal of the RTT switching contract that should happen before summer. Needless to say, Bell Telephone, in competition with Atea-Siemens and AT&T, hopes this time to win the lion's share.

FINLAND

Private Data-Transfer Firm Expands Net

91WT0132A Helsinki HUFVUDSTADSBLADET in Swedish 17 Apr 91 p 11

[Article by Barbro Teir: "Datatie Competes With Telecommunications Administration"]

[Text] The Postal and Telecommunications Administration [PTV] is getting competition: Yesterday Oy Datatie began transmitting all telecommunications except for ordinary (voice) calls via its own long-distance net. Dataties service is about 25 percent cheaper than PTV's telecommunication fees.

"Datatie is attempting to get into the market through cut-rate prices. But it does not bother us; we have the largest share of the market," said Director Heikki Hakalin, manager of the basic telephone network at PTV.

Alternative Service

Datatie was founded in the middle 1980's by the Helsinki Telephone Association and the Association of Private Telephone Companies, but did not obtain a license for its operation—to provide an alternative to PTV's service—until 1988. Last December the license was extended to include all forms of nationwide telecommunications except for ordinary telephone calls.

"We hope we can start to compete for the ordinary telephone call also within the current decade," said deputy managing director Jarmo Kalm, who is associated both with Datatie and the Helsinki Telephone Association.

It was a landmark moment yesterday for Datatie when the first telefax message was sent from Helsinki to Tampere via its own long-distance network. Telefax and datacommunication are the principal so-called Diana services (Dialed In Advance Network Access) being offered.

"Above all, we are aiming for business in comprehensive data transferral via telefax and automatic data processing. But any private person can also make a contract with us," said Director Pekka Perttila of the Association of Private Telephone Companies.

"Dataties long-distance net can be accessed regardless of what telefax or computer make one has. The only stipulation is that the customer must make an agreement, free of charge, with the company that the telephone line connected to the long-distance net will not be used for

normal calling—a condition that Datatie will monitor. If the agreement is breached, the party is taken off the net," said Perttula.

Always Expanding

Datatie's license for communications transmission is valid for the entire country, but so far it is only operating between Helsinki and Tampere and between Helsinki and Lahti net groups.

Within the year the Diana connection will be extended to nine other places and will be extended further as Dataties's long-distance net expands.

When FAX or data is sent to a business or a private party who has access to Datatie's long-distance net, the number 9102 is dialed instead of the number 9 for the normal area code. For example, if one is sending to Lahti (area code 918), one dials 9102 18 and then the actual telephone number.

Low Prices

Dataties long-distance fee for Diana service is 65 penna per minute during weekday business hours. Outside these hours it costs 30 penna per minute to use the long-distance net for transmission.

"It is true that their prices lie on average 25 percent under ours—unfortunately," admits Reijo Nikula, administrative manager for PTV.

Why is the charge for the same service so different?

"We are on the point of lowering our long-distance prices by about 10 percent this year. But a big drop in prices is not possible because the demand for service would then be more than we could handle," said Director Hakalin.

Pekka Perttula, on the other hand, feels that PTV overprices its service in order not only to turn over its profits to the state finances, but also to invest in stocks and subsidies which strengthen the administration's own position.

"These transactions are not always indisputably moral," said Perttula, who is hoping for discussions concerning monopolization of telephone transmission.

Agency Adding Data-Transfer Services

91WT0132B Helsinki HUFVUDBLADET in Swedish
17 Apr 91 p 11

[Article by Carl-Gustav Linden: "Telephone Company Offers New Services"]

[Text] The Postal and Telecommunications Administration's [PTV] daughter company Maksuverkot Oy will be taking over datacommunication for charge cards between banks and their business customers. Director Sakari Aaltonen explains that the present system, in which the banks do the transfer of information themselves, is too expensive and inefficient.

"PTV's objective is to build an infrastructure, as it makes little sense for the banks to do it themselves."

"Clearly it will be cheaper to finance it as a national unit than to have six separate systems as is now the case."

Aaltonen and Marketing Manager Pekka Kalanti have a common background in Dava. They feel that the service they are offering is similar to normal mail, the only difference being that PTV will now transport the information from a charge card terminal in a store's checkout register directly to the bank.

The director for technical data function at the Andelsbank Central bank, Risto Ankio, said that both the banks and businesses were very interested in PTV's project. Especially for smaller stores and kiosks, with few charge card transactions per day, the new system would be cheaper because they would be required to pay for transfer of bank information on such things as lost charge cards only as needed. The information would be collected in Maksuverkot's data centers, the "central hubs."

With the current system, they receive the information every day and it is expensive.

On the other hand, Ankio believes that it will be some time before the banks give up their existing systems and convert to using Maksuverkot. About 30 percent of the people within PTV's telephone division have worked on the project in recent months, even though Maksuverkot itself has only seven employees. In the summer, the operation will officially begin according to plan. In the summer, also, the company will announce what the specifications for the charge card terminals will be. It is intended that shops will not have to buy new register equipment, that equipment now in use can be made to connect up directly.

Aaltonen said that, in principal, Maksuverkot is not supposed to sell charge card terminals. The data company's salesmen, however, are awaiting orders with exceptional interest; there is talk of 20,000 terminals and investments in the magnitude of 50 million markkas.

"It is obvious that big investors are interested in a project such as this one, but we are not talking the same magnitude of investment as in, for example, the automatic teller network of the 1980's."

In reality it has more to do with investment in program software.

The use of a charge card, that is to say a bank or credit card, has increased dramatically in recent years from 30 million transactions in 1985 to 170 million in 1989.

Aaltonen will not say how large a market share his company needs in order to be profitable. Nor is he ready to make any forecast on earnings generated through service fees.

Bank customers—shops, restaurants, kiosks, etc.—are today using charge terminals which are not of the same era as bank data systems. In many cases, completely manual machines are used to register purchases.

Maksuverkot's system uses ordinary telephone lines, but by using higher frequencies does not intrude upon normal telephone traffic; for example, a kiosk owner can make a call during transmission. In addition, Maksuverkot is marketing a radio system which allows even mobile entities such as taxicabs to be equipped with charge terminals.

The charge terminals can be connected directly with the credit information register.

Maksuverkot does not have the right to engage in telephone or radio traffic without buying these services from PTV. Director Jarmo Kalm of the Helsinki Telephone Association, who is also deputy managing director for Datatie, Maksuverkot's competitor, is doubtful about the profit potential.

"We began researching a similar project two years ago, Korttikontakti, but we dropped it because we could not find anyone willing to pay for the service. Perhaps Maksuverkot has a better system."

GERMANY

Southern Laender Form Broadcasting Entity
*91GE0304Z Frankfurt/Main FRANKFURTER
 ALLGEMEINE in German 1 Jun 91 p 4*

[Article by Johann Michael Moeller: "Struggle Between Gotha and Weimar: The FDP and Southeast Radio"]

[Text] Erfurt, 31 May—Normally there is a government and an opposition in a land. In Thuringia that is different: Gotha and Weimar are there. The minister-president lives in Gotha. There he consults with his closest friends, the powerful president of the rural county assembly, for example, who also resides in Gotha; there the actual political decisions are made.

At least that is what is suspected by Andreas Kniepert, the Liberal coalition partner and chairman of the parliamentary party group, who resides in Weimar and suspiciously looks in the direction of Gotha. He considers it characteristic that the federal president was received in Gotha of all places, but he makes Weimar into a Liberal stronghold. Environmental Minister Sieckmann lives there, the media policy spokesman of the parliamentary party group, and in addition Foreign Minister Genscher, for whom Weimar has been a diplomatic outpost in addition to Halle for a long time, drops by all the time. This in turn worries the Christian Democratic chief mayor who almost feels as if he were in enemy territory in his own city.

There is no direct connection between Gotha and Weimar. But sometimes when the climate of the coalition threatens to cool down seriously, the land chairmen walk together in the forest. Apparently the old question was involved recently: Who has to fear for his influence in Thuringia.

When this topic arises the chief of the Liberal parliamentary party group always becomes wide awake, after all he can observe clearly whether a cloud is falling on his Liberal colleagues in the cabinet. In most cases he discovered one such cloud. In that case a Liberal counterblow appeared to be advisable and it had to be aimed at the center of the opponent's power, at the State Chancellery. The latter's chief had negotiated the State Treaty for the Central German Radio with the neighboring laender of Saxony and Saxony-Anhalt and, in doing so, as the Weimar Liberals quickly discovered, had given up Thuringian interests. There is the threat of a Greater Saxony corporation, protested the worried FDP [Free Democratic Party] immediately, that will leave Thuringia's own radio without any real voice. What is involved here is Thuringia's moment of truth, it was said; a suspicion that if it is directed against Saxony it is convincing every time in the land.

The shot actually was supposed to have been fired immediately before the decisive cabinet session in neighboring Saxony. But the latter was postponed and thus it was possible to bang first the coalition doors in Thuringia so loud by the way that the poor SPD [Social Democratic Party] opposition with its defiant "We, too" hardly gained a hearing.

Outsiders had trouble really in understanding the controversy. For in the cloud of dust in the thick of the battle it was difficult to determine that the FDP actually had recognized a sore point of the state treaty. Only if it is possible to separate a second audio chain regionally, the FDP rightly complained, does the land program have a chance to achieve a superior level. Only a real service station with international news can last in the long run in the field of tension that exists between the North German, Hessian, and Central German radio, not to speak of the private audio programs which have established themselves from the start in the new laender. Full freedom of cooperation should also be up to the land radio stations which would leave the Hessian backdoor open to the Thuringians also with respect to the radio; they had become accustomed to choose what they want from among several neighboring laender. A demand, incidentally, which the chief of the Thuringian State Chancellery had first introduced at all in the negotiations.

One crisis session followed on the heels of another until at the last moment they thought better of it and recognized that it was impossible to let a state treaty approved by the cabinets in Magdeburg and Dresden collapse unless there was a willingness to endanger seriously the basic service of the Thuringian people with public radio

in the coming year. Thus a compromise was reached that took the Liberal objections into account.

Now nothing is being changed any more in the actual treaty text, but in the reasons which now mandatorily provide that both the regional window in the second audio program and also cooperation arrangements which do not significantly influence the character of the programs are going to be the sole responsibility of the land radio stations. The assignment of frequencies, as usual, in the future is being controlled by a land media institution, the reports of the audit offices are to be directly accessible to the land parliaments, and it will also be possible to separate the Third Television Program in the individual laender.

Since neither Dresden nor Magdeburg had any objections to these changes, the minister-presidents flew yesterday, Corpus Christi Day, to Erfurt to sign and seal the state treaty quickly there in the Electorate of Mainz. Also agreement apparently seems to have been reached on the name of the initial director: The name of the Bavarian radio director, Uwe Reiter, is being mentioned with noticeable frequency. He is regarded as capable of asserting himself—and that he will also have to be—in a multilaender institution. They are still thinking about the name of the new institution. Suedostfunk (Southeast Radio) is already being talked about.

Northern Broadcasting Structuring Delay Persists

91GE0304Y Frankfurt/Main FRANKFURTER
ALLGEMEINE in German 1 Jun 91 p 4

[Article by Web.: "Report Pleads for a Three-Laender Solution"]

[Text] Frankfurt, 31 May—While the southern three of the five new laender have now created the conditions for a joint broadcasting corporation under public law, the plans for a Northeast German Radio (NOR) are making hardly any headway. Mecklenburg-Western Pomerania, whose unclear position thus far has resulted in the failure to establish a broadcasting corporation because Minister-President Gomolka (CDU) [Christian-Democratic Union] advocates a three-laender Northeast German Radio (NOR) corporation while the coalition partner FDP [Free Democratic Party] prefers joining the North German Radio (NDR), continues to negotiate with both sides. The land government of state-treaty partner Brandenburg had set a deadline in the dispute over establishment or nonestablishment of the NOR. Unless a corresponding state treaty with the Berlin Laender—whose radio Free Berlin (SFB) is to be merged with NOR—and Mecklenburg-Western Pomerania is introduced by 12 June, Brandenburg will introduce a bill in parliament for a land radio corporation of its own.

The negotiations with the partner laender are to be continued based on the salient points on which the directors of the state chancelleries of the three laender had agreed in April. They include strong land radio stations with responsibility of their own for the land

programs, a decentralized management structure, and the dissolution of the SFB. It seems Gomolka no longer wants to stick at all costs to the three-laender solution; he intimated that despite his previous position in favor of the NOR, that a change to the NDR, which has been trying for months to get an eastern partner, is possible. But objective reasons that could move him apparently cannot be found in a report especially prepared on the topic which examines the model variants. The paper produced by Paul Mikat, the former North Rhine-Westphalian minister of culture, also is criticized by NDR director Plog: When Mikat favored a three-laender corporation, that corresponds to the result desired by the minister-president, anything else, according to Plog, would have surprised him. Gomolka intends to make a decision prior to the summer recess.

The director of the West German Radio (WDR) and present chairman of the Association of Radio corporations of Germany (ARD), Nowotny, was concerned about the slow-moving negotiations. He said he is not sure whether the new radio organizations in the east can produce independent programs when the "Institution" (the rest of the former GDR Radio) will be dissolved by the end of December as provided in the unification state treaty. He doubts whether objective factors are involved in the dispute concerning the affiliation of Mecklenburg-Western Pomerania with the NDR or an independent east German radio corporation. Some planning schemes aim at creating a bigger corporation than the WDR. The latter is by far the biggest station in the ARD. But Nowotny said he would be happy about any solution which contributes to relieving the WDR of its disproportionately large payments in the ARD financial equalization.

In contrast the danger of radio policy particularism, feared by many experts, with independent and therefore expensive land radio corporations, in each case has now been averted in the three other new laender. The minister-presidents of Saxony, Saxony-Anhalt, and Thuringia (Biedenkopf, Gies, and Duchac—all CDU) signed the state treaty for the Central German Radio (MDR) on Thursday in Erfurt. In the future the new corporation is to play an "influential role" in Germany and to also contribute to accomplishing cultural unity following the political unity. The treaty has to be ratified by the land parliaments.

On 1 January 1992 the MDR is to start operations as a radio corporation under public law. Plans call for audio land programs for each of the laender and two audio programs for all three laender, which are to be produced in the Leipzig MDR headquarters. TV production is supposed to be located in Halle and the advertising affiliate will have its headquarters in Erfurt. The MDR is to transmit land broadcasts in the ARD early evening program and produce a third TV program. Land radio stations are to be established in the capital of the three laender—Dresden, Erfurt, and Magdeburg.

A membership of 40 is planned for the radio council of the new transmitter. Sixteen of them come from Saxony, and 12 each from Saxony-Anhalt and Thuringia. Votes from at least two laender are required for majority decisions.

Broadcasting Structure Negotiations Advance

91GE0329Z Frankfurt/Main FRANKFURTER ALLGEMEINE in German 11 Jun 91 p 4

[Article by Web.: "Laender Negotiate New Broadcasting Structure"]

[Text] Frankfurt, 10 Jun—One thing that will be packed in the suitcases of the minister presidents of the German Bundeslaender for the next round of negotiations is extensive material on the planned restructuring of the broadcasting landscape. Once again, several negotiating sessions will be concerned with the State Broadcasting Treaty, financing, the establishment of new broadcasting corporations in the east, the future of the federal broadcasting corporations, and the dissolution of what is left of the former GDR broadcasting system. The state chancelleries are indicating that results should be in before the summer break.

German unification has brought with it the need to revise the basic April 1987 State Broadcasting Treaty between the Laender, to which the new Bundeslaender want to accede—a step that in fact must be taken if chaos is to be avoided, since television and radio are under the jurisdiction of the laender, and arrangements that encroach on others require joint resolutions. At the same time, past experience from the coexistence of and cooperation between private and public suppliers should be taken into account, and the provisions from the European Community guideline on international television should be incorporated as quickly as possible. However, the Federal Constitutional Court must still examine this guideline, because some of the western Bundeslaender are calling into question the competence of the EC in this matter. In the view of the plaintiff laender—led by Bavaria—the federation cannot cede authorities that it does not have to the EC.

Aside from the general provisions set out in the State Broadcasting Treaty, such as those on diversity of opinion and on the protection of youth, which are essentially uncontested, the foundations of broadcast financing, including advertising arrangements, are up for discussion; the planned expansion of advertising time on ARD and ZDF to the hours after 2000 in particular is being hotly contested.

The minister presidents will deliberate on a draft text on the State Broadcasting Treaty that was only recently submitted by the state chancelleries. In the view of many critics, this text is characterized by friendliness towards ARD and ZDF. The draft document does not address the issue of a change in advertising times. This change is being demanded by both broadcasters as compensation for the loss in revenue due to private competition. The

advertising industry hopes to lower its costs through the expansion. The private broadcasters are energetically opposed to the plan, as are publishers. Similarly controversial is the desire by the public broadcasters to begin advertising on Sundays and holidays as well. In contrast, the Association of Private Broadcasting and Telecommunication (VPRT), the private broadcasters' lobby, has submitted its own proposal calling for the phasing out of advertising on public broadcasting media. As compensation, the VPRT wants to have the broadcasting fee increased, which is intended to make the proposal acceptable to the public corporations as well. The state chancellery proposal rejects any restriction of the coverage areas for ARD Radio. In that case, ARD could broadcast radio advertising throughout the entire country. The limitation to 90 minutes a day was also brought up for discussion in the draft text. To the chagrin of the private broadcasters, the prohibition on participation by public broadcasting corporations in further European satellite channels was replaced by a section whereby the minister presidents can assign channels by executive order. This opens up new opportunities for ARD and ZDF in terms of involvement in the planned European news or sports programs. The laender do not comply with the private broadcasters' suggestions with regard to another point: There will probably not be any reassignment of the available frequencies for ground-based broadcasting (with an improvement in the position of the private broadcasters, who currently operate at a disadvantage).

The proposal also scarcely complies with the demands by the private suppliers that more intermittent advertising be allowed. In terms of the basic conditions under which private broadcasters will operate, however, the provisions of the EC guidelines were incorporated. Cinema and television films can be interrupted once every 45 minutes (currently every 60 minutes). Most other types of broadcasts lasting more than 45 minutes can include two advertising slots in the future, depending on the will of the state chancelleries. The provisions concerning diversity of opinion were amended. The land media institutes for private broadcasting should be obligated to submit a report on diversity of opinion at least every two years. Lower Saxony and Schleswig-Holstein want to restrict the involvement of private companies in supraregional television programs, while some laender want to submit proposals on controlling the involvement of publishing houses in broadcasting.

In connection with the central issues of the division of responsibilities between the public and private systems, a separate decision must be reached on the future amount of the broadcasting fee, although this will be discussed by the minister presidents in conjunction with most of the other points. The just-submitted special report by the Commission on Determining Financing Needs of Broadcasting Corporations (KEF), which is responsible for this question, has elicited criticism. This is partly the result of a compromise formula, because the 16-member board made up of representatives of the state

chancelleries and auditor's offices, together with experts, tried to mediate in the controversy surrounding the determination of the ZDF share (which had to be redefined, since the ratio of debits to revenues resulting from supplying the new Bundeslaender has turned out to be significantly better for the ZDF, with its unified program, than for the ARD corporations). Despite the revenues from the new Bundeslaender, the ZDF will continue to receive 30 percent, but the television fees are increased slightly from 13 to 13.70 German marks [DM] (4.4 percent) per month. According to estimates by the KEF, the expected ZDF shortfall of DM1.2 billion by the end of 1994 will be less, because during those years ZDF can expect additional fee revenues amounting to DM567 million. Based on the desires of the KEF, the ARD corporations will enjoy an increase of only 70 pfennigs, although the base fee (as an equivalent for radio) will rise sharply from the current DM6 to DM7.60, or 27 percent, from which ZDF will not profit. Thus, the report provided for a significant downward adjustment in the corporations' reported financing needs.

Besides the revision of the State Broadcasting Treaty, the minister presidents must also clear up a number of individual issues on the structure of broadcasting service in eastern Germany, issues that will affect the debate surrounding the level of fees. One such question is the establishment of a broadcasting corporation in the northeast—this coming on the heels of the agreement between the central German laender to form a three-laender corporation. The battle over media policy is further complicated by the need to restructure the Deutsche Welle and Deutschlandfunk federal broadcasting corporations, as well as the need to integrate Rias Berlin (previously under American administration) and the (eastern German) Kultur broadcaster, where, in turn, Bonn media politicians have a say. The KEF recommends a surcharge for this restructuring as well, whereby 75 pfennigs on the base fee or 85 pfennigs on the television fee would be necessary to finance the current supply of offerings, not, as was previously the case, largely from tax revenues, but rather from the broadcasting fee. This is a figure that clearly speaks in favor of reducing costs through consolidation. Another increase is already a fait accompli: Beginning next 1 January, every (western) German will pay an additional 75 pfennigs for the German-French culture channel, which experts consider to be an outdated project.

A fee increase in the new Bundeslaender will be difficult. Following unification, households there were encumbered with a DM19 fee (instead of around 10 GDR marks previously). After the effective dissolution of the GDR broadcasting system, there were fewer programs to see for more money, because prior to unification the western broadcasters could be received almost universally. Thus, an increase in the general broadcasting fee to around DM23 in the future should scarcely constitute an additional burden for the eastern household; the result will be a different fee in east and west. This should then be evened out by 1995.

The minister presidents' schedule is jam-packed; the State Broadcasting Treaty is to be negotiated in the middle of this month, and in early July a decision is to be reached on the future of the federal broadcasting corporations and on the amount of the broadcasting fees—a task that is scarcely manageable, given the differences in opinion on important points.

ITALY

New Telecommunications Satellite Project Described

91MI0231X Milan SISTEMI DI TELECOMUNICAZIONI in Italian Feb 91 pp 40-52

[Article by G. Manoni and F. Mini of Selenia Spazio: "Sarit, the Italian Satellite: Current Status and Guiding Principles of the Project"]

[Excerpts]

1. Introduction

The wholly satisfactory results of the recent HDTV (high-definition television) experiment conducted via satellite by the RAI [Italian Broadcasting Corporation] during the Italy '90 world soccer championships have perhaps contributed in some measure to a better understanding of the need for a national DBS [direct satellite broadcasting] service of high quality television programs.

For the first time, a select audience in Italy was able to view an event filmed live in high definition projected on the big screen.

The event was made possible by using the Italian channel permanently available to RAI on Olympus, the large telecommunications satellite placed in orbit by the ESA (European Space Agency) in 1989.

Nevertheless, given the experimental nature of this satellite, the availability of only one channel, and its relatively short operating life, RAI, supported by national industry, has proposed developing an entirely Italian satellite system. This system could make the DSB service operational for the general public, and introduce the broadcasting of high-definition programs even for domestic use.

Market research in this sector shows that the situation in our country is totally different from the rest of Europe, where the presence of a limited number of "private" channels has generated a demand for quantity rather than for quality.

In Italy, where for some time a very large number of programs have been received via the conventional earth networks, it is deemed commercially essential to add a few more channels that offer greater visual and contextual quality.

This foreseeable revolution in television viewing is compared by many to the fairly recent revolution of the introduction of color and, like it, is bound to have a strong impact on advanced industrial sectors (electronic processing, flat screens, etc.), and an increased usage.

The future Italian satellite system, the successor to Olympus, is called Sarit and was recently the subject of a definition study carried out by Selenia Spazio, a company of the IRI-Finmeccanica [Institute for the Reconstruction of Industry - Mechanical Engineering Finance Corporation] group, on behalf of RAI.

The goal of the study was to consolidate the requirements and configuration of the system on the basis of mission specifications agreed upon with RAI.

Figure 1.1 illustrates the work carried out [figure not reproduced here].

This article describes the results of that work, detailing the guiding principles of the project and the technical solutions adopted.

2. The Sarit Mission

The Sarit satellite basically combines two requirements: First, the need to broadcast television programs (conventional and high definition) over the entire national territory; second, the need to put an adequate number of telecommunications channels at the disposal of the manager of broadcasting services to "support" the production of the programs themselves. The transmitting capacity of these channels must be according to the quality of the transmission.

This is a new concept that is reinforced even more by the need to produce HDTV programs that, beyond quality, require a greater degree of in-studio postproduction processing, starting from the external filming frequently done in distant locations.

The DBS satellites currently in orbit do not provide for this requirement, the disadvantage being that they must allocate the above-mentioned support services to other satellites.

Of the five DBS channels assigned to Italy by international regulations, two will be dedicated to broadcasting HDTV programs while the remainder will operate with the PAL or MAC standard.

RAI has provided for the use of about five to six digital channels with a 140 Mbit/sec capacity for such a DBS configuration. As will be demonstrated, Sarit can reach its full operating capacity with two satellites, each carrying a mixed broadcasting and support load installed in a medium-sized body.

There are numerous operational, technical, and economic advantages.

First, the principle of staggered launches minimizes the risk of jeopardizing the whole mission should the launcher fail or an essential component malfunction in orbit.

Next, dividing the overall capacity between two "medium" satellites favors the dilution effect of investments as a function of the real demand for orbiting services avoiding more costly launch operations.

The principle requirements underlying the development of the Sarit system are the following:

- Direct television broadcasting according to international norms.
- Bands and power for HDTV.
- Multipoint distribution (120 and 60 MHz channels).
- 10-year-plus lifetime.

Sarit, in addition, will be capable of using part of its transmitting capability for the implementation of broadcasting services for the general public. Audio-stereo channels, multilingual programs, data transmission and targeted television programs, besides television programs, will all be possible, simply by using a domestic receiver.

3. Description of the Satellite

The Sarit system provides for:

- A pair (cluster) of two identical satellites placed in geostationary orbit at 19° west, both of which are operational, plus a reserve satellite on earth to be launched in the event of major breakdown of one of the two satellites in orbit.
- A network of transceiver stations on earth.

Each operational satellite carries about half of the total capacity required.

This "modular" approach was chosen because of the significant advantages it offers. In fact:

- Because the two satellites in the cluster are identical, the risks and costs of the project as well as its development and back up are minimized.
- The reliability of the system is increased given that each satellite can operate as a mirror image of the other intrinsically protecting the system from major breakdowns.
- A gradual increase in capacity while in orbit is possible and permitting the two satellites to be launched at different times. This permits investments to be calibrated with the real capacity demanded without having to initially configure the system with a capacity equal to that foreseen at the end of its life (10 years).
- It allows a significant saving in launch costs because a "dedicated" Ariane launch is not necessary, but rather two launches in the so-called middle Ariane-4 class, each of which costs less than half of the "dedicated" launch.

The salient characteristics of the Sarit satellite are shown in Table 3.1.

Table 3.1 General Characteristics of the Sarit Satellite	
Orbiting life	> 10 years
"Dry" mass of the satellite	740 kg
Bipropellant mass	1100 kg
Payload mass	350 kg
Maximum launch mass	2200 kg
DC power available, outside of eclipses, at end of life	3000 W
Power absorbed by payload	2400 W
Power absorbed by platform	600 W
Power supplied by the battery in eclipses	1300 W

Each satellite carries a payload consisting of two functionally independent sections:

- A section for direct broadcasting of television programs via satellite within the country, operating in the 18-12 Ghz frequency band.
- A section for DBS support services (SS) to transport and distribute the TV signal, operating in the 13-11 Ghz band.

Table 3.2 compares the capabilities and characteristics of Sarit with other existing satellites and those under study in Europe:

Table 3.2
Comparison of Ratings Between the Sarit Satellite and Other Satellites

Satellite	Life (Years)	Weight (kg)	Power (Watt)	EIRP (dbW)	N/CH (D/T)
Eutelsat I (F2/F5)	7	1,172	928	45	14T
Eutelsat II	7	1,850	3,000	52	16T
TV-Sat	9	2,000	3,000	63	4D
TDF-1 (2)	9	2,000	3,000	63	4D
Astra	10			52	16T
BSB 1/2	10	1,850	915	59	3D
TELE-X	7	2,000	2,300	60	3D+2T
Olympus	5	2,532	3,600	62.7	2D
Sarit	10	2,200	3,000	64	3D+5T

Source: "Space Communication and Broadcasting," North-Holland Amsterdam, Vol. 6, No. 1-2, May 1988

Notes: D = direct broadcasting; T = program transport

[passage omitted]

6. Development Program

The multipurpose architecture of the Sarit system represents an operationally attractive solution both for national usage, as described in detail, as well as for future diverse or "enlarged" user pools beyond Italy such as developing areas, for example.

A careful marketing strategy could create new opportunities for installation in countries able to have access to at least a part of the technology proposed with Sarit.

The national program provides for the launch of the first satellite in 1994 followed after two to three years by the second. In the event of failure, a reserve satellite will be ready for launching shortly thereafter, compatible with the successive launch windows.

The 1994 date is a target imposed by the need to retain the technical advantage obtained with Olympus up to the end of its operative life.

Thus, the promotional activities carried out by several IRI group companies, RAI, and Selenia Spazio primarily to proceed with the development of the first satellite during the early months of 1991, appear justified.

The schedule of the entire program is shown in Fig. 6-1.

Selenia Spazio will be the chief contractor thanks to the experience acquired by the company as a systems manager in space developments. For this project in particular the contribution of the knowledge it has acquired will permit Selenia Spazio to play a fundamental role even as the manager of the final integration and launch campaign.

6.1 Industrial Organization

The prime contractor's task will be to organize, plan, direct, and control a group of technical and economic activities to ensure compliance with the program's time limits and projected costs.

The development of this management plan will be a time-consuming process in view of the complexity of the program and the potential number of participants.

In addition, the industrial organization will come to depend on how the client chooses to organize himself.

From the general point of view, and thanks to prior experience, the Sarit program will avail itself of consolidated management techniques and resource management centralized in a program office, as is normally the case for projects of a certain size. It will be a kind of "company within a company" able to efficiently direct a series of projects that will involve many Italian and foreign companies.

This office will act as the sole interface with the client, assuring a correct flow of information to and from the internal entities.

The requirements of the program toward subcontractors and partners will be clearly identified in appropriate contractual documents associated with the WBS (Work Breakdown Structure) of the system.

The WBS is a basic document containing all the "work packages" necessary for the development of the project.

Figure 6.1.1 [not reproduced] shows the organization of the program based on recent coordination experiences used for Italsat and Olympus. Possible variations to the structure are being evaluated in relation to the new role of the company.

The organization is based on a mixed structure-program concept. The program manager coordinates the program office for all those activities relating to the management of the program. In addition, project managers delegated by the industrial structure oversee specific areas of the project.

The areas of responsibility will be formally assigned to avoid conflict and make better use of the professional expertise of individuals.

Last, management and control methods already successfully tested in prior programs will be adopted:

- CADM (Configuration and Data Management) which was already implemented in the configuration of the software to adapt it to the enormous quantity of both technical and management data to be processed.
- The "configuration control" committees in various areas which will be formally institutionalized to manage all modifications and variations requested whether internal or emanating from subcontractors.
- The activity of the product assurance managers in direct contact with the program office to reach operative decisions within the time limits dictated by the schedule.
- The cost control and planning activities which will also be placed in the program office and will use management software capable of measuring work

efficiency in real time and supplying data for eventual corrective measures.

6.2 Workshare

Selenia's possible program partners are being identified. The guiding principle is the optimization of "make or buy" choices favoring industrial agreements and eliminating redundancies in terms of development costs.

The partners will have to offer strong guarantees in terms of "risk management" in the respective supply contracts.

The innovative developments, as already noted, will be concentrated in the television payload components.

Table 6.2.1 lists some on-board equipment for which a purchase plan is being developed.

[Box insert, p 52]

Important system parameters will influence the choice of the body: operative life, installed on-board power, launch mission. In relation to the mix, interesting options may open up for Sarit in terms of optimizing outfitting times of the Flight Unit (F1) and reducing the project risks.

Table 6.2.1
On-Board Machinery To Be Acquired

- Area: Television payload
- Medium and high-power TWTA
- EPC
- High-power switches
- Output multiplier
- Front-end low noise figure
- Channel filters
- Linearizators [linearizzatori]
- IFA
- Area: Body
- Attitude control system
- Primary structure (Italsat derivation)
- Thermal control
- Propulsion system (additional fuel tanks)
- Generator and primary regulator
- Antennae
- DBS and SS feed
- Tracking system

Analyses of possible launchers for Sarit will be extended to the new American and Soviet versions recently placed on the market. [end box insert]

6.3 Conclusions

The envisioned development plan of the Sarit satellite, considered to be the natural evolution of the potential shown by Olympus, thus appears to have a strong technological content for Italian industry and Selenia Spazio in particular in the medium term (the next two to three years).

From the economic point of view we maintain that the services offered and the commercial attractiveness of Sarit guarantee the manager more rapid returns than competing systems.

SWEDEN

Report Views Long-Range Reduction Plans

*91WT0130B Stockholm DAGENS NYHETER
in Swedish 28 Apr 91 p A 5*

[Article by Anita Sjoblom: "Televerket Will Eliminate 5,000 Jobs"]

[Text] Televerket needs to get rid of 5,000 employees in three years. The various telecommunications zones have figured out that that reduction of personnel is required for them to be able to obtain the needed financial results.

Sweden's 20 telecommunications zones recently submitted their figures in connection with their presentation of the long-range plans for investments and results to be obtained through 1994. The big reduction in personnel is required so that the telecommunications zones will be able to attain the financial goals that have been set up. Director General Tony Hagstrom and Televerket's management have only started to examine the proposal, and no negotiations with the workers have begun yet.

The reason for this streamlining step is the fact that the government is calling for Televerket to provide 5 billion during the coming year to be used for the railroads and highways. Furthermore, Televerket is to cover a government loan of 2.2 billion.

Fewer Changers of Jobs

How many of the 5,000 people are going to be fired is very uncertain. Retirements and other natural departures are included in the figure.

"We believe that 4,400 people are going to leave for natural reasons," Information Director Uno Grokvist says.

But with a labor market that is getting tougher, the telecommunications zones expect that fewer people are going to change jobs, and consequently a number of notices of termination may actually be issued. Televerket has a total of about 48,000 employees.

The reduction in personnel will hit the various telecommunications zones differently. Stockholm will experience the biggest reduction, both percentagewise, with 24 percent, and in number of people who will leave—1,695. It is expected that only 10 percent of the personnel strength in Kalmar will need to leave, and that means 78 people.

Elsewhere, it is proposed that 162 people will leave in Lulea, 151 in Umea, 226 in Sundsvall, 105 in Ostersund, 109 in Falun, 125 in Gavle, 151 in Uppsala, 200 in

Vasteras, 201 in Karlstad, 200 in Orebo, 400 in Norrkoping, 101 in Jonkoping, 129 in Kristianstad and 250 in Malmo.

DAGENS NYHETER stated earlier that there were plans to combine the Boras, Goteborg, and Uddevalla telecommunications zones, which would mean 1,000 fewer jobs. Now those three zones have reported their figures as if they were going to continue as independent units.

Thus they propose a personnel reduction of 520 people in Goteborg, 132 in Uddevalla, and 173 in Boras. Helsingborg's telecommunications zone has not submitted any figures.

Ericsson CEO Ramqvist on Firm's Future

*91WT0137A Helsinki SUOMEN KUVALEHTI
in Finnish 10 May 91 pp 27-29*

[Article by Arja Piispa: "From Rock Bottom to the Top"—first paragraph is HELSINGIN SANOMAT introduction]

[Text] "Being a manager is hard work. You always have to run faster than the others," Lars Ramqvist, doctor of physics and chemistry and the general manager of the L.M. Ericsson Company, said. He was not referring to his own position in a company worth billions and employing 70,000 persons, but the company's position at the top of telecommunications technology and the market.

L.M. Ericsson has been running hard and fast. During the past five years, it has whizzed by many of its competitors. It has gotten one out of every four of the 10 million users of mobile phones in the world into its network; its large centers operate in over 80 countries; and it has a firm foothold all over Europe, the United States, Latin America, East Asia, and Australia.

Ericsson has improved its earnings faster than any other large Swedish firm. While the recession robbed the others of billions in profits, Ericsson registered its highest earnings ever. It has 114 years to compare them with since Lars Magnus Ericsson's telephone repair shop began operating in 1876.

Last year, Ericsson's profits increased by 31 percent, to about 5 billion kronor. Its profits were almost as big as those of ABB (Asea Brown Bowery), which is three times larger, and clearly bigger than those of Volvo, Stora, Electrolux, and SKF (Swedish Ball Bearing Factory), which are all larger than Ericsson.

Everything was quite different six years ago. Ericsson was rapidly moving in the wrong direction. Then it began to use its head. The downturn came to an end, and the upturn began.

What actually happened?

Return to Its Roots

At the end of the 1980's, a "computer virus" struck Ericsson, as it did many others. They thought that the data-processing and telecommunications industries are so close to one another that one and the same company

could operate very well in both of them. Ericsson expanded into computers and IBM telephones.

Very soon, however, they noticed that the new field of operations was sucking the vital fluids out of the old ones.

"We very nearly ran dry. We were forced to adopt a radical change of strategy. We decided to sell everything that was not related to telecommunications technology and seriously concentrate on the latter. Before it was too late, we saw in which direction the market was evolving and realized that our chance lay in the field that we really know well."

Ericsson Information Systems was sold at a good price to Nokia Data, which is now struggling to survive during a recession spiral, as are many other electronics companies in Northern Europe.

"At any rate, Nokia will do better in that field than we did. We didn't even know as much about it as they do," Ramqvist said, as though apologizing. His own career with L.M. Ericsson began in 1980, specifically as manager of Information Systems.

He did not go any further into the problems of those days but hastened to remind us that Ericsson sold a lot of other divisions in 1986-88, too—among them its cable operations in the United States—and radically reduced its role in the production of defense technology.

"At the same time, we bought more telecommunications businesses, among them all the joint-venture companies in which we held shares in several countries.

"We were lucky, too," Ramqvist admitted. "The monopolies were breaking up, and markets were opening up to us in many countries at just the right time. Many big countries in Western Europe, North America, and the Pacific wanted to replace their telecommunications networks with digital equipment and introduce additional services. At the same time, a real breakthrough was made with mobile phones."

Billions Invested

At first, Ericsson's personnel was reduced by nearly a fourth from the original 80,000, but then increased again to its present 70,000.

A radical reorganization is now on the agenda. "The technology is now so powerful that we can produce more than before with fewer people," Ramqvist asserted.

The key words are research and development. Ericsson has really invested a great deal in them and plans to invest even more. "Perhaps a billion and a half kronor more."

A total of 2 billion kronor was used for development of technology last year, 17 percent of its business turnover. Nearly 5 billion kronor of this went into product development per se.

Ericsson has been criticized for its excessively large investments in product development. It has been maintained that profits should be distributed inasmuch as they are being produced. Ramqvist and his board of directors are of a different opinion: Strike while the iron is hot. Its lead must be secured and markets taken over now, when they are being divided up. Profits can be distributed later.

"No tree grows as far as the sky, as the Chinese wisely say. The bigger a company grows, the more competition grows and the demands on the company.

"We have openly cajoled investors, explaining to them what we plan to do, and tried to tell them that our investments must be viewed with the long term in mind. Whether our quarterly stock exchange quotations rise is not of primary importance to us. We are planning for 1993-94. The seedlings that we plant now will bear fruit at some time in the middle of the decade."

Tough Competition

The field of telecommunications is evolving at a dizzying pace. The worldwide telephone network is expanding to become twice as large as it is now. There are now a half-billion customer lines, and there may be even more than a billion by the turn of the century.

The competition over who gets to build the networks, telephone exchanges, transmission systems, and telephones, both wireless and wired, is becoming increasingly tougher as the need for telephone links in the developing countries grows and the developed industrial countries want more convenient connections than before.

The competition is getting tougher in Europe, in particular, where Americans and Japanese are also trying to obtain their share, but they are also competing in the growing markets of North America and East Asia.

Eastern Europe is still a largely "unplowed field." In building its indispensable communication links, the best and fastest alternative is considered to be a wireless radiophone network, while, at the same time elsewhere, to conserve the radio waves [for other uses], they are trying to put all the traffic that does not require wireless transmission into underground cables.

As an "overall expert" in telecommunications, Ericsson holds many trump cards in the race for markets. In the same company, it has everything needed in the way of telecommunications: telephones, exchanges, transmission, and network technology. Its strength lies in combined radio and exchange technology.

The world's biggest seller of mobile phones, Motorola, for example, has concentrated on radio technology. It does not have its own exchange systems. Ericsson has quietly succeeded in capturing the market in 14 of the 17 largest cities in the United States with its combined technology. As for the other big American company,

AT&T, it has specialized in centrals and exchanges but has not been very successful with radiophones. As a competitor, the German company Siemens is a giant, but it does not have a radio technology, either, nor does the French company Alcatel. L.M. Ericsson is now collaborating with the Japanese, an association of which Ramqvist, the former manager of Ericsson's radio division, seems to be especially proud.

"Nokia has broad competence but operates on a smaller scale. It controls a few percent of the world mobile phone market, whereas we control 40 percent of it," Ramqvist pointed out. He nevertheless believes that Nokia will succeed. Nokia is itself a bigger seller of telephones, "handsets," than Ericsson.

"While most of our competitors operate in only some parts of the world, we are present everywhere. We want to be near our customers. Every one of our local companies represents the whole corporation, all of its know-how, even though each of them specializes in some area of expertise."

Everywhere

Ericsson operates in 100 countries and has its own company in 80 of them. Its main operational area is still Europe, where there is enough modernization of cable networks and a growing market for radiophones. In Germany, for example, only 1 percent of the population has mobile phones, in Sweden over 5 percent, and one out of 10 persons in Stockholm has one.

Access to the German market is a cause for rejoicing for Ericsson. It is so eager to get into it that it is right now founding its own 500-man research center in Aachen with the aid of its Finnish subsidiary, the Ericsson Company.

A common digital radiophone standard, the GSM [expansion not given], which is the equivalent of the Nordic NMT [expansion not given], is to be adopted in Europe at the end of this year. Eleven of the 17 European countries that are joining it have ordered their systems from Ericsson.

Six million of the 42.5 million telephone lines manufactured in different parts of the world last year were installed by Ericsson. Its share of the market was 14 percent.

Ericsson's large telephone central system, AXE [expansion not given], is in use in 81 countries, its office exchanges in 55 countries, its mobile phone systems in 44 countries. It has already captured a third of the U.S. market, among others.

Ericsson has supplied Hungary with the first mobile phone system in Eastern Europe. In Spain, it has the exclusive rights to the digitalization of telephone communications. In Australia, it has up to now held monopoly status in all telecommunications activities. It is participating in the construction of a digital network in Japan

and is opening the market in China. In Finland, it is number one in the market when we talk about the telephone network and telephone exchanges. But, in Sweden, it is a prophet without honor in its own country. The local monopoly, Televerket, itself serves as both manufacturer and marketer.

With Perseverance, Too

Ericsson has been operating in Italy, the Netherlands, and Mexico for 70 years. In France it has had to engage in tough competition with the local company Matra [Mechanics, Aviation, and Traction Company]. In England, it stubbornly bided its time for 13 years until the Thatcher administration's privatization campaign opened the market to it. The reward for its perseverance was a third of the market.

"Stubbornness, as you Finns say, is typical of Ericsson. We don't give up easily. We don't jump from one product or one market to another. We keep pushing forward until we succeed."

And its competitors have noticed this. Using the same techniques, they are now trying to catch up with their pacesetter. And, as for Ericsson, it is trying to step up its pace to preserve its lead.

This calls for money and inventiveness.

Ericsson has about 9,000 engineers developing technology. Up to now, 70 percent of them have been in Sweden, but, within the next few years, more and more of them will be elsewhere.

The focal areas for product development are cordless personal phones, digital telephone exchanges, and "intelligent" optical telephone networks and hair-thin fiber cables.

Even though the market has appeared to be insatiable, just as good one year as the previous one, Ramqvist did not dare to predict how well his company will do. Rising costs, the recession, and the uncertain political situation add to the uncertainty.

"Before, a shortage of money did not prevent orders from being sent in the Western industrial countries, but now our customers in Spain, for example, say that the state's funds have dried up. They ask us for aid in financing orders so that they can get their telephone lines into shape for the Barcelona Olympics."

Ericsson Values

L.M. Ericsson has the reputation of being a good employer. According to Ramqvist, this is by no means due to high wages because Ericsson is not a leading company in terms of wages. Because of this, many left it for other companies but returned before long.

"We have our own common values at Ericsson. We're all treated the same regardless of in which country and at

what job we work or whether we are black, white, or green," Ramqvist maintained.

Professional skill, emphasis on people, and permanence are Ericsson's values. According to Ramqvist, these evolve of themselves among employees without management's having dictated or influenced their appearance.

"We have no hierarchy, unlike many of our big competitors. I don't walk around shouting at people. We have very open discussion.

"I have 27 persons under me who report directly to me. I really try to listen to their concerns, whether they involve their work or their families. They, in turn, do the same for those who are subordinate to them."

At Ericsson, there is a rule that at least once a year everyone has to sit down face to face with his immediate superior. It is his duty to listen to what his subordinate has on his mind.

In spite of its worldwide markets, billions in profits, and tens of thousands of employees, L.M. Ericsson is, according to Ramqvist, still a small company. "Unfortunately."

"Large corporations have greater financial resources. We have only one leg to stand on, with which we have to succeed."

Ramqvist did not nevertheless predict that there would be big mergers or corporate takeovers in its field, but certainly increasingly joint ventures, say, between Nokia and Ericsson.

"I think that the number of companies operating in this field will grow," he said. "As sensational and paradoxical as that may sound."

Ericsson Chief on Company's Problems

*91WT0136A Stockholm DAGENS NYHETER
in Swedish 28 May 91 p 33*

[Article by Thorbjorn Spangs: "Ericsson Profits Dropping; Fewer Orders; Chief Executive Guarantees Continued Success"]

[Text] The company's chief executive, Lars Ramqvist, told shareholders at the annual meeting last Tuesday that the telecommunications giant, Ericsson, is not going to be able to maintain last year's record profits of 4.8 billion kronor.

"Ericsson is still a successful company, however, and it will be part of the fight for the lead during the 1990's," he emphasized.

The return for the first three months of the year stayed at a little over 1 billion kronor. A decline of 148 million kronor, or a little over 10 percent, compared to the same time last year.

Lars Ramqvist feels that it is a highly satisfactory return. Especially taking into consideration the fact that the profits were burdened with 500 million kronor in higher development costs, compared to the same months last year.

Fewer Orders

Incoming orders have also dropped. The decline of 12 percent is principally explained by the fact that many countries, among them Mexico, Great Britain, Spain and China have chosen to defer several projects within Ericsson's business area, public telecommunications.

"The 1990's will yet become the decade of the personal telephone. Estimates show that, at the turn of the century, it will be possible to call—by means of regular or wireless connections—1 billion subscribers compared to 500 million today. This is a market that we will join in the fight for."

"My Responsibility"

Lars Ramqvist will view it as a personal failure, if the company does not continue to remain the internationally leading supplier in the area.

"Maintaining our position is my personal responsibility," he told the shareholders, who almost filled the entire Concert Hall in Stockholm. The promise was heard by Ericsson's primary shareholder, Peter Wallenberg, who was sitting in the first row with, among others, Per Lundberg, chief executive of the investment company Providentia.

The spearheads that are going to maintain Ericsson's position are called research and development. Major emphasis is placed on this area in Sweden, and Ramqvist promised that it would remain that way.

"The expansion, on the other hand, will take place abroad. Internationalizing is a result of the fact that research efforts demand close contact with the customers," said Lars Ramqvist.

Belief in Sweden

Then he made a jump into the election debate by stating the company's loyalty to Sweden.

"We believe in Sweden, but we also believe that the general policy and especially the industrial policy will not harmonize well with Europe and the EC."

He did feel that the transfer system was problematic, however. That is to say the tax withdrawals that are then shunted along for various social purposes.

"Transfers only generate unnecessary inflation. And who pays?" he asked the shareholders. He supplied the response himself. "Society is weak."

According to Ramqvist, one positive measure that has been accomplished, and which already is having noticeable effects on Ericsson, is the reduction in sickness

compensation that took place last spring. Since it came into effect, sick days among blue-collar workers have been reduced by 35 percent and among white-collar workers with 25 percent.

Ericsson is investing 350 million kronor in a new property in Kista, north of Stockholm. The investment will take place within the area of radio communications. This activity, which today is carried out in partially rented premises, employs 2,500 people in Kista.

UNITED KINGDOM

UK-German Group To Study Telecom Links

91WT0139A London *THE DAILY TELEGRAPH*
in English 13 May 91 p 22

[Text] Britain and Germany are to co-operate more closely on telecommunications policy, following a two-day official visit to Britain by Christian Schwarzschild, the German telecommunications minister.

He and Peter Lilley, Britain's Trade Secretary, have agreed to establish a working group to study bilateral satellite licensing and to co-operate on reserving a new frequency for Personal Communications Networks—cheaper, pocket-size mobile telephones.

Meanwhile, a report on the shake-up of the British market says Government efforts to encourage rivals to British Telecom are likely to result in three or four long distance operators emerging and up to 50 local telephone companies.

The report by Telecommunications Research Centre predicts a rise in total telephone services revenue from 12.6 billion pounds sterling in 1990 to 22.2 billion in 1995 and 41.8 billion by the end of the century.

British Telecom Chairman on Market Deregulation

91AN0356X Paris *ENTREPRISES & TELECOMMUNICATIONS* in French Apr-May 91
pp 72-75

[Interview with Iain Vallance, British Telecom chairman, by Herve Marchal; place and date not given: "In the Winds of Hypercompetition"—first paragraph is *ENTREPRISES & TELECOMMUNICATIONS* introduction]

[Text] The modern saga of British Telecom (BT) is, in fact, a true return to the roots. First the United Kingdom, then the rest of the world—with only one boss: the customer. But in no event should its chairman, Iain Vallance, a charismatic liberal figure of English society, be regarded as a theatrical director. On the contrary, he is a decisionmaker. He is the man who is implementing a painful, internal restructuring which will result in the departure of 45,000 employees. He is the man who crosses swords with the Office of Telecommunications

(OFTEL) defending his corporation's clear-cut dominance in the national market. He is the man who is at the helm of Tymnet, drawn by the wind of the high seas, off to conquer the "market of the future": value-added services for the large multinationals. He is the man who is ready to invade the mobile communications market. Finally, he is the man who claims his country to be the most liberal in the world. An exclusive interview with Iain Vallance.

[ENTREPRISES & TELECOMMUNICATIONS] The government has recently put an end to the duopoly of British Telecom and Mercury, who until then had been sharing the British telecommunications network between them. This change is all the more important since your company controls approximately 95 percent of the market. Moreover, the bitter dispute which preceded this decision—and in particular your sharp confrontation with OFTEL—illustrated the extent to which this change in the law disturbed you. In the end, you appear rather satisfied with the measures taken by Peter Lilley, the Minister of Industry responsible for this matter. Thus, we can conclude that you have received substantial concessions for this....

[Vallance] Let me say first that we have just taken a decisive step in the important process that began in 1984 with the privatization of our company. Today, we have reached what I call the watershed. The step we have taken is an essential one: We went from a government-controlled to a real competitive market. It is tough for us, but also for our competitors.

[ENTREPRISES & TELECOMMUNICATIONS] Consequently, this new situation is the result of an agreement negotiated with the government.

[Vallance] The agreement that we came to with OFTEL and the government covers many subjects. However, four points seem essential to me. First, it concerns the possibility of altering rate structures. This means that if we want them to be commensurate with the actual cost, which is our objective, fixed fees (connection and subscription) have to increase and variable fees (calls) be reduced. Second, we adopted the principle of a flexible rate structure. This gives us the right to offer more advantageous "package deals" to large customers. Our rate structure will no longer be rectilinear; this allows us to improve our position toward large accounts. The third point deals with the fees for interconnection, which will henceforth be shared, as of now with Mercury and in the near future with others. This means that those who connect to and use part of our network will have to pay a fair price to move all or part of their traffic. It is one way of acknowledging that other long-distance carriers must do their part in rebalancing the deficit generated by the cost of the local network. In fact, this does away with a subsidy for newcomers. Fourthly and finally, from now on international calls will be a part of the revised rate structure. This is important since the new regulation requires rates to be based on the rate of inflation minus 6.25 percent. Therefore, with international traffic in the

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price basket, we write off the reduction on 65 percent of our income rather than on 55 percent. This is easier to absorb. After all, we are reasonably convinced that this is an arrangement we can live with; all the more so since newcomers will have to prove themselves.

[ENTREPRISES & TELECOMMUNICATIONS] Two areas remain in which you did not obtain satisfaction—cable and mobile communications.

[Vallance] It is true that we are disappointed with the restrictions on mobile communications; and, particularly, with the ban on transmitting television pictures over our network. This latter point hits closer to home since it brings into question the principle of reciprocity between us and the Regional Bell Operating Companies (RBOC), the American regional telephone companies. In reality, they are liberally permitted to introduce cable into Britain. We, however, encounter significant restrictions in the majority of areas in the United States. It is due to this that I demand the same freedom in the American market.

[ENTREPRISES & TELECOMMUNICATIONS] In reality, do you believe England to be the most advanced country now in terms of deregulation?

[Vallance] Yes, certainly. Competition is much freer here than in the United States or anywhere else in the world. All the more so if the government continues as it announced in its White Paper. We tend to forget that in the United States the RBOCs have a local monopoly. There is real competition only with respect to intercity and international traffic, and to a limited extent in mobile communications. In England, it is everywhere.

[ENTREPRISES & TELECOMMUNICATIONS] You are conducting a vast internal restructuring program which could result in 30,000 redundancies. As justification for this, some people readily mention that the productivity of France Telecom is higher than yours.

[Vallance] It is hard to compare the two companies since we do things that France Telecom does not do, and vice versa. Having said that, it is clear that, among the Europeans, France Telecom is the most competent and efficient. As for our restructuring, the primary objective is to overhaul our approach toward customers. It is a matter of putting the customer first.

For example, take two houses in the same neighborhood. In one of them lives a journalist who works at home; he needs a fax, a hands-free telephone, and maybe a leased line or a connection to an integrated services digital network (ISDN). In the other house lives an elderly woman; she is waiting for a telephone with large push buttons. In a geographical approach (which we had previously), these two people would be offered the same equipment even though they do not have the same needs at all. Henceforth, we shall be responsive to this type of situation.

However, one of the consequences of our restructuring will indeed be a reduction in manpower. You say 30,000? It all depends upon the time period under consideration. During the last 12 months, some 15,000 people were laid off. The plan for the next two to three years is for 10,000 per year. At the same time, our endeavors to modernize the network continue at the rate of 8 million pounds per working day. Each day, we install two digital exchanges. We are mainly using equipment supplied by GEC-Plessey Telecommunications (System X) and Ericsson (AXE 10). Today, almost 10 million lines have been digitized, i.e., about 40 percent of the network. This program will continue into 1995.

[ENTREPRISES & TELECOMMUNICATIONS] The Telepoint system—a pocket-size phone which permits telephoning in the street close to a relay terminal—is a failure. Is this a major setback for you strategically?

[Vallance] Technically, Telepoint functions very well. However, there is a marketing problem, which is being studied. The operators' offer is being modified; they are currently in a process of amalgamation. Anyway, Telepoint does not represent an essential activity for British Telecom.

[ENTREPRISES & TELECOMMUNICATIONS] Do you have faith in the Personal Communications Network (PCN), the individual telecommunications network of the future, from which you were excluded by the government?

[Vallance] In the first place, it all depends upon what you mean by PCN, since this is multifaceted concept. In any case, I maintain that it does not exist at this moment. If it is true that the government has allocated frequencies in the 1.8-gigahertz range, we are convinced that we can offer exactly the same service in cellular form, in the 900-megahertz band. We did not receive the PCN license on 1.8 gigahertz so as to allow new players, new competitors to enter the field. However, this does not bother us very much. We are convinced that, by developing our cellular network on 900 megahertz, we shall be able to meet all market demands in personal communications.

In reality, what is PCN? Personal communications. A stage, that is all. In this matter, there exists a kind of word magic. So, let us keep it simple. Besides, if Cable and Wireless¹ is not offering anything yet, it is because there is no demand in the marketplace. Let us take an example. Are you convinced that today's clientele is really demanding the ability to turn off the lights at their house or to activate the closing of their shutters by means of their telephone? I am saying that, in my opinion, this has yet to be shown.

[ENTREPRISES & TELECOMMUNICATIONS] Will the market for communications by satellite using VSAT (very small aperture terminals) microstations experience a large expansion? Will your cooperation with Hughes in this area increase?

[Vallance] Our cooperation with Hughes (Satstar is our banner result) is a business participation. In reality, they have equipment that is well adapted to this type of service. And it is true that, considering the very positive easing of restrictions in the space sector, VSAT represents a good solution for corporate communications.

[ENTREPRISES & TELECOMMUNICATIONS] Let us stay in space for a moment. Do you consider Motorola's Iridium project viable (77 satellites orbiting the earth to create a network completely independent from Post and Telecommunications Authorities (PTTs)?

[Vallance] That is a particularly interesting project, which is why we started discussions with Motorola in the spring of 1990. However, we cannot kid ourselves; this is not for tomorrow. Among others things, there are many technical problems, and maybe even more regulatory ones, which have to be resolved.

[ENTREPRISES & TELECOMMUNICATIONS] Your policy is to extricate yourself from your industrial investments—Mitel in Canada, for example. Are you not tempted, however, to offer an integrated package of services and hardware like the American giant AT&T?

[Vallance] No, absolutely not. We tried to diversify in the manner you mentioned, but we gave it up. We hold 51 percent of the shares in Mitel and as soon as there is an opportunity to sell, we would seize it. However, that would depend upon the price. Mitel is purely a financial investment to the extent that, as I just mentioned, production of private automatic branch exchanges (PABX) is no longer in our strategic plans. We even see a basic contradiction in being both a manufacturer and a supplier of services. It is not easy for a manufacturer to sell his hardware to operators who are, most often, his main competitors. On that point, we have a much different attitude from that of AT&T. Finally, I do not believe that the "smart" PABX is any longer at the center of all telecommunications. We can do just as well with a "basic" PABX, but with a "smart" network.

[ENTREPRISES & TELECOMMUNICATIONS] With respect to large customers and small and medium-sized enterprises (SMEs), demand for telecommunication services by these companies keeps increasing. How are you responding to this demand?

[Vallance] The first thing that very large international companies expect is to have a sole supplier for all of their service requirements. Our intention for the future is to meet all these requirements that are vital to users on a case by case basis. Thus, on the floor of the stock exchanges, it is necessary to guarantee 100 percent dependability and quality. This is obviously more expensive, but these clients are willing to pay more for this type of service. In other areas, most would be content with 90 percent. The essential thing is to respond to demand; create the service to fit the need. However, to achieve this, you have to have analyzed and fully understood what type of operation the client has.

[ENTREPRISES & TELECOMMUNICATIONS]
Exactly; for large enterprises, is your worldwide offer going to focus on value-added services, known as Global Network Services (GNS), based on the Tymnet system, which was reacquired from McDonnell-Douglas in 1989?

[Vallance] British Telecom's offer of GNS through Tymnet consists of a worldwide value-added services network which is accessible from 90 percent of the world's primary business centers and from more than 100 countries. We supply three sorts of value-added services: First, so-called all-in services in 22 countries (we take care of all the activities and the client does not have to worry about anything); second, value-added services in more than 35 countries (this is also an all-in value-added service but offered through local telecommunications operators); third, an X75 access in more than 80 countries (packet-switched data transfers along interconnected national networks). With the launching of GNS, British Telecom is managing the largest operational value-added network in the world today.

This allows BT, in its role of sole supplier, to offer its customers services they were demanding, but which were nonexistent at the time. Among other things, this includes centralized billing in the currency chosen by the client, personalized network management services, and all-in maintenance. This enables our customers to concentrate on their areas of predilection, their business, while GNS takes care of difficult and complex problems tied to international communications.

[ENTREPRISES & TELECOMMUNICATIONS]
Taking into account British Telecom's experience, objectives, and abilities, how does your company regard the future with respect to corporate services? What sort of demand do you anticipate for the business world?

[Vallance] Basically, that depends on the size of the companies. The aim of our aforementioned internal reorganization was to allow us to respond to the different needs of assorted customers. The rule is "be flexible." As a supplier, we must listen to the customer and not try to impose our own point of view. Nonetheless, we believe that there are more and more customers who want a package solution. That implies a one-stop-shopping service, where there is one representative for all services and, with respect to the large corporations, global network solutions.

For some time now, we have had to face up to growing pressure from the global market which demands a sole supplier for all-in value-added services including voice, data, video, or fax services. Multinationals want to entrust one prime contractor with the entire responsibility for establishing a personalized, global solution. This trend toward "outsourcing" (offering customers an all-in package deal by procuring products that are not in the catalog from other suppliers), is gaining impetus at the international level.

[ENTREPRISES & TELECOMMUNICATIONS] Are all operators prepared to respond to this expectation?

[Vallance] Today, not one telecommunications supplier can provide a complete product range, since this would actually imply the operation, maintenance, and marketing of a network on a worldwide scale. It is for this reason that the majority of international services are offered through traditional agreements made with national telecommunications operators. However, quite original moves are under way. For example, that is the case with the "Account Management Plus" service, provided jointly by AT&T, the Japanese KDD, and BT. This one-stop service was established outside of traditional arrangements.

[ENTREPRISES & TELECOMMUNICATIONS] It is evident that operators are attracted by the international market, that is where the largest profits can be made. Nevertheless, the FINANCIAL TIMES is leading a very active campaign against prices, which they consider too high for international communications. Our colleague does not hesitate to denounce a sort of international cartel among large operators.

[Vallance] Telecommunications operators have always made more money with intercity and international traffic than with local communications. It is indeed true that we—and we are not the only one—make substantial profits on international traffic, on the order of 2 billion pounds per year. Why? First of all, because it allows us to compensate for the low local rates. Moreover, the higher charge for an international communication is obviously less unpopular than a more expensive local subscription. Finally, in the medium term, increased competition is going to result in lower charges for the consumer. And I can assure you the reductions will be significant.

[ENTREPRISES & TELECOMMUNICATIONS] Aren't you announcing a reduction in rates as of today?

[Vallance] This is what is going to happen now. Local enquiry services will have to be paid for, but in return we will go ahead with an average rate reduction of 4.5 percent. For intercity services, this reduction will be 7.3 percent. As to international calls, the price will come down by 0.5 percent as of April, and by 10 percent in June. Overall, this trend will not only continue, but accelerate.

[ENTREPRISES & TELECOMMUNICATIONS] Exactly, do you believe that competition in Europe is going to become more pronounced? More than a year ago you stated that "the privatization bug will reach all of Europe." You even added that "the wall of the telecommunications monopoly is going to come down, just like the Berlin Wall." Deregulation has progressed on the Continent and, nevertheless, BT does not show the same aggressive behavior as in the American market.

[Vallance] I am convinced that liberalization and competition are going to increase significantly. Inevitably, politicians and regulatory bodies will have to authorize

what the market demands and technology can supply. It is true that we have been more aggressive in the American market; however, the explanation is quite simple: It is more open than the majority of the European markets. Competition in Europe is very limited, today.

[ENTREPRISES & TELECOMMUNICATIONS] In your opinion, have France and Germany deregulated enough, and in a comparable way? Are there not portions of the market which could be even more open?

[Vallance] To be sure I would like to see the French and German markets as open as the British market, but this is obviously not yet the case; in particular, with respect to basic telephone services. Nonetheless, I have the feeling that Germany is heading more rapidly toward a policy of deregulation than France.

[ENTREPRISES & TELECOMMUNICATIONS] What exactly is the significance of your presence in France?

[Vallance] The competition level of the market is very limited. Nevertheless, we are developing close cooperation with France Telecom, especially in the fields of switching and international dedicated services. In addition, we have a small-scale operation there, which is limited to offering Tymnet, and we are really successful in selling systems for the floors of the stock exchanges.

[ENTREPRISES & TELECOMMUNICATIONS] How are you going to expand your operations in Europe?

[Vallance] We shall be competing in all areas where competition is allowed, particularly in that of data transmission. With this in mind, Tymnet represents a key acquisition for British Telecom. When regulations permit it, we shall begin competing for the operation of the networks of the large international companies.

We are quite interested in mobile communications, but the opportunities are very limited. I see us more in a role of cooperation, than in competition. Here are two examples: In Poland we had a 20-percent stake in a consortium led by Swedish Telecom. However, a law nullified everything. The new call for tenders has just been issued, but we do not know if we are going to respond. In Portugal, we have entered into a partnership with a local private company, Compta, to develop the GSM [Special Mobile Group] mobile telecommunications standard. This will be the first Pan-European cellular network available in Portugal. However, this does not seem to be the moment for us to begin competing in the area of fixed networks. Participating in a Central European network, as France Telecom decided to do in Mexico with Telmex, for example, is out of the question.

[ENTREPRISES & TELECOMMUNICATIONS] In comparison, your investments in the United States are sizable and impressive: a 20-percent stake in McCaw Cellular, for which you are criticized for having paid too much, and the acquisition of Tymnet. Nonetheless, you have terminated your paging operations.

[Vallance] This was a minor activity which did not offer great prospects. On the contrary, the Tymnet acquisition has been a great success. There is still McCaw, which we have always regarded as a long-term investment that will improve. At present, cellular phone business is slowing down in the United States because of the general recession, but we are convinced that it is still going to be a big success in that country.

[ENTREPRISES & TELECOMMUNICATIONS] In recent months there has been a great deal of discussion about your connections with IBM, particularly concerning your supplying large enterprises with full-service communications. Even more now that Big Blue has decided to transfer its worldwide telecommunications headquarters to London.

[Vallance] In 1984, there was a joint venture project bearing the name JOVE. However, because of the Monopolies Law, the government forbade it. It is true that we have important ties with IBM. We are one of its principal customers, and vice versa. I can assure you, however, that no joint venture project exists. Obviously, if we can do more business with IBM, we shall do so.

[ENTREPRISES & TELECOMMUNICATIONS] In your opinion, what are IBM's plans in the telecommunications field?

[Vallance] Operating a basic network is not part of IBM's strategy; however, providing network services to its clients certainly is.

[ENTREPRISES & TELECOMMUNICATIONS] So it enters into direct competition with BT in this market.

[Vallance] Our relationship is really quite complex. However, the same is true with AT&T. We work together with these two companies and we compete with them. We are possibly the main customer of IBM in Europe and IBM is our main customer in Great Britain. The situation with AT&T is much the same. Competition is focused on precise, limited portions of the market. Honestly, all of this is quite complicated.

[ENTREPRISES & TELECOMMUNICATIONS] What about your relationship with Northern Telecom?

[Vallance] For us, it is a major supplier of PABX systems with its "Meridian" range. Every time we have to install a private network, we shall use Northern Telecom's PABXs anywhere in the world. Therefore, we have good relations. However, Northern Telecom is not our major supplier of exchanges for public networks.

[ENTREPRISES & TELECOMMUNICATIONS] Last but not least, what is British Telecom's overall strategy?

[Vallance] Great Britain is still the place where we have to carry on our main business, where we have to achieve success on a priority basis. If we want to be successful anywhere else, we must win in Great Britain first.

Our international strategy, is focused on North America, West Europe, Japan, and a portion of the Pacific. In terms of business sectors, it is directed toward mobile communications services, data transmission, and private international networks for large multinationals.

[ENTREPRISES & TELECOMMUNICATIONS] How do you see the telecom scene in 10 years, and with which performers in the forefront?

[Vallance] Major changes will take place. Only five or six companies will be capable of offering worldwide services. To a certain degree, the others will be forced inside and they will have to concentrate on supplying services at the national level, which, by the way, does not seem very exciting to me. Well then, who will be these five or six lucky ones? The American companies AT&T, for sure, and IBM or General Motors-EDS; the Japanese companies KDD and NTT; and finally, one or two Europeans: British Telecom, Bundespost Telekom, or France Telecom. All the other companies will be eliminated by two factors: on the one hand, the cost of research and development—the entry fee at this level will be approximately 200 million pounds per year, i.e., Fr2 billion—and, on the other, the necessity of a real international operation as the bulk of the future market will be made up of multinational companies. Tymnet has given us this international dimension. As a final example, note that in Great Britain these companies make over 50 percent of their income abroad. Thus, there is no question of not providing our services in Bangkok, Sydney, or Osaka.

[Box, p 75]

Third-Largest Company in the UK

Privatized at the end of 1984, British Telecom has 1.2 million private shareholders, who hold 3 billion shares, i.e., 51 percent of the capital. The shareholdings of the small holders, including BT employees, represent 20 percent of this package. The State still controls 49 percent of the company. Today, BT is the third-largest company in the United Kingdom in terms of sales figure, the first company in terms of profit, and the country's largest employer with 240,000 employees. Its 1990 turnover reached 12.315 billion pounds (fiscal year March 1989-February 1990), with pretax profits of 2.302 billion pounds. During the last nine months of the current fiscal year, as compared with the same period of the previous year, turnover increased by 7.9 percent and profits by 15.5 percent. As the principal operator of private telecommunications in Europe, and second in the world, British Telecom has recently implemented a new internal organization. Iain Vallance replaced the geographic distribution with a three-sector approach that is better adapted to the customer: "business communications" for the companies; "personal communications" for the public at large; and "special communications" for all other activities, including mobile phones.

Footnote

1. British telecommunications operator specializing in international lines, with a strong presence in Asia, more particularly in Hong Kong. It has a staff of nearly 30,000 people.

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